

RFP Contract Project Manual

For Construction of:

OLYMPIC REGION HQ REPLACEMENT

A DESIGN BUILD PROJECT

OLYMPIC REGION
THURSTON COUNTY

STATE PROJECT



Washington State
Department of Transportation
Facilities Office

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Request for Design-Build Proposals (RFP)

OLYMPIC REGION HEADQUARTERS FACILITY

Washington Department of Transportation (WSDOT)

Project Description

- Project includes the design and construction of a new WSDOT Olympic Region Headquarters complex.
- The new Olympic Region Complex will consolidate the Region resources and workgroups in a single location on Marvin Road and 32nd Avenue, north of Hawks Prairie in northeast Thurston County.
- The project will include a multistory 94,000 square foot Administrative Office Building housing 400 staff, a 72,000 square foot light industrial Maintenance Shops Facility 135 staff, plus a Fueling Island and Radio Communications Tower. Parking will include approximately 600 spaces.
- The over-all project budget includes a Maximum Allowable Design and Construction Cost (MADCC) of \$26,000,000.
- The 38 acre project site has all necessary utilities available and meets the appropriate Thurston County zoning requirements.

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Section I

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1. Project Summary

A. Description and Scope of Work

The new WSDOT Olympic Region Complex will consolidate the Region resources and workgroups in a single location on Marvin Road and 32nd Avenue, north of Hawks Prairie in northeast Thurston County. The 2005 Legislature approved Certificates of Participation (COP) funding and design/build delivery for the new replacement Complex.

The project will include a 94,000 square foot administration building and 72,000 square feet of maintenance shop facilities, along with approximately 600 parking spaces and associated vehicle circulation. The administrative office building will house Olympic Region administrative staff, Real Estate Services, Traffic and four satellite Project Engineers offices. The maintenance shop facilities will house the Equipment Shop, Stores, Parts, Radio, Carpenter shop, Striping, and Signals. The project also includes a fueling island and radio communications tower.

The Maximum Allowable Design and Construction Cost (MADCC) is \$26 million.

The complex will be located on approximately 38 acres near Hawks Prairie that was purchased in August of 2005. The projected use of the Complex meets the appropriate zoning requirements. Thurston County and the City of Lacey have given preliminary approval to the project.

The project must comply with the current LEED Silver standards required by the Legislature (RCW 39.35D.030); these are intended to enhance indoor air quality, building operations efficiencies and employ environmentally friendly construction products and systems.

The WSDOT HQ Maintenance and Operations Division Facilities Office will administer the project. Design will start in October 2006 with occupancy scheduled for March 2009.

B. Purpose and Goals of Project

1) Purpose:

The purpose of the new Olympic Region Headquarters Complex is to consolidate region resources and workgroups in a single location where substantial improvements in efficiency, technology and working environments will result in reduced operating costs plus improved communications, production and employee satisfaction.

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2) Goals:

- **First Priority:**

- Program Requirements**

- Provide a complete Complex that meets all of the State's requirements as defined in the Space Needs Program (Section V).

- Employee Productivity:**

- Optimize alignment / functionality between the region's basic functions.
 - Maximize flexibility to accommodate future needs and organizational changes.

- Employee Satisfaction**

- Provide a Complex with attractive, interesting and functional working environments for employees.
 - Provide easy and effective accessibility throughout the facility.

- **Second Priority:**

- Total Cost of Ownership**

- Provide an easy to maintain, long lasting facility
 - Reduce operating costs.
 - Balance initial costs with life cycle costs, emphasizing functional efficiency, area, materials, and building systems.
 - Apply state-of-the-art technology, equipment and space utilization to optimize efficiencies.
 - Provide flexibility to adjust to future energy related changes and their impacts.

- Enhancements**

- Provide project enhancements that exceed the State's requirements in the Space Needs Program (Section V—3.C.3).

- **Third Priority:**

- Sustainability**

- Receive LEED Silver Certification.
 - Include access to the facility for multiple transportation modes.

- Human Factors**

- Improve communication.
 - Provide a safe and secure facility for staff and visitors
 - Maximize the use of shared meeting rooms, vehicles, and common areas.

- **Fourth Priority:**

- Image / Character**

- Create an image that symbolizes the most positive aspects of WSDOT reflecting the functions and purposes of the facility.
 - Become an integral part of the community, fitting appropriately within the context of adjacent sites.

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C. Selection Process Milestone Schedule

- Release of RFP April 7, 2006
- Phase I RFQ pre-submittal briefing April 14, 2006
- Phase I RFQ submittal due May 1, 2006
- Phase I RFQ interview May 22, 2006
- Phase I RFP selection complete (3 to 4 Teams short-listed) May 24, 2006
- Phase II RFP pre-submittal briefing May 31, 2006
- Phase II RFP submittals due August 23, 2006
- Phase II RFP selection completed September 15, 2006
- Pre-award conference September 25, 2006
- Design-Build contract awarded October 10, 2006

D. Pre-Submittal Briefing Meetings

Pre-submittal briefings will be held before the Phase I submittal. The briefings will be held at the General Administration Building, 210 11th Street, Olympia, WA, Room 207 at 9:00 AM and again at 1:00 PM. Due to the special requirements for submitting the Past Performance Information and the Risk Analyses, attendance at one of these briefings is strongly recommended.

E. Project Contact Person:

- **Gary Larson: larsong@wsdot.wa.gov – phone (360)-705-7867. Address questions and requests to fax (360) 705-6892.**

F. Time and location of Phase I RFP submittal:

- All Phase I RFP submittals must be received by 3:00 p.m., Pacific Standard Time, May 1, 2006 and must be delivered:
 - i. **By U.S. mail at:** Attn: Ken Walker, Post Office Box 47360, Olympia, Washington 98504 – 7360. The Department of Transportation will consider notification of bid receipt by the Mail Room as the actual receipt of the RFP submittals.
 - ii. **By hand in person or courier:** to the Department of Transportation Contract Ad & Award Office, Room 1A23 located at the Transportation Building, 310 Maple Park Avenue SE, Olympia WA. 98504 – 7360. RFP submittals delivered in person will be received only in the Contract Ad & Award Office Room 1A23.

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- Facsimile or electronic transmission submissions will not be accepted.

2. Summary of the Design-Build Procurement Process

A. Use of Design Build: The Project will be designed and constructed using the design-build delivery system as specified in RCW CH. 39.10.051. On February 3, 2006, WSDOT notified the community of the intent to use design-build. After allowing the required time for public comment, WSDOT made its final determination to use design-build. The reasons for using Design-Build are as follows:

- 1) The project will require collaborative solutions to match available budget to the desired scope.
- 2) The project cost may be lower as a result of that closer working relationship between the designer and a construction contractor.
- 3) Efficient and economical methods are incorporated into the design.
- 4) The construction activities and technologies to be used in the maintenance shop facilities are highly specialized requiring a Design-Build approach to provide the required technology.
- 5) Design and construction activities can be performed concurrently, reducing the amount of time required to complete the project.
- 6) Dispute resolution between the designer and a construction contractor is limited, resulting in reduced opportunities for litigation and contract modifications.

B. Selection Process: The selection of the winning Design-Build Team and the award of contract for the Olympic Region Headquarters Facility will consist of the following three phase process.

- 1) **Phase I RFQ**—Phase I consists of the submittal and scoring of Design-Build Teams' qualifications, experience, detailed past performance evaluations, risk analyses, and interviews. Upon receipt of the Phase I proposals, WSDOT will initially score the proposals based on the past performance evaluations and risk analysis submittals provided in the proposals. The Proposers receiving the top five scores will then enter into the interview process. At the conclusion of the interviews, WSDOT will short list at least three (if any) Proposers to submit Phase II Best and Final Proposals. WSDOT may cancel or re-advertise this procurement at its discretion.
- 2) **Phase II RFP**— Those Proposers who have been invited to proceed to Phase II will develop and submit a Best and Final Proposal in response to this RFP. The Best and Final Proposals include, among other things, schematic designs, risk analyses, management strategy, and proposal price. See Section III for

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the Best and Final Proposal submittal requirements. Only the short listed Proposers from Phase I will be eligible to participate in Phase II.

- 3) **Phase III Negotiations**— Once the Phase II Best and Final Proposals have been evaluated and scored, WSDOT will initiate negotiations with the Proposer who submitted the highest-scored Best and Final Proposal. Negotiations may include, among other things: scope of work, trade-offs, and value engineering suggestions, all within the MADCC. If WSDOT is unable to execute a contract with the highest-scored Proposer, WSDOT will terminate negotiations and will begin negotiations with the second highest scored Proposer. WSDOT will continue in accordance with this procedure until a contract agreement is reached or the selection process is terminated. WSDOT will pay an honorarium in the amount of \$80,000 to those short listed Proposers who submit a responsive Best and Final Proposal, but are not awarded the contract.

3. **Availability of RFP Documents**

- A. To obtain the CD-ROM:** contact WSDOT's Contract Ad & Award Office 310 Maple Park Ave SE Rm 1A23, Olympia Wa 98504-7360 or call the Plans Number at (360) 705-7835.
- The complete RFP is available on the following website:
<http://wsdot.wa.gov/biz/contaa/>.
 - All necessary files and attachments are included on the CD-ROM disk; however original paper versions of all documents are also available. To be placed on the proposers list to receive addenda, questions and answers and other project documents you must contact the above office and register.
- B.** A nonrefundable fee of \$25.00 will be charged for each copy of the RFP.
- C.** Complete sets of RFP documents must be used in preparing proposals. Neither the State nor any consultant of the State who might have been involved in the preparation of the RFP Documents assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of RFP documents.
- The State makes copies of the RFP available only for the purpose of obtaining proposals for the work and does not confer any license or grant for any other use.

4. **Definitions**

Definitions for this RFP are contained in the Design-Build Agreement (See Section II—6.A)

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Section II

Project Description and Contract
Requirements

Section II—Project Description

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Section II—Project Description

Section II—Project Description

The work includes the professional site master planning, design, preparation of construction documents and construction of the building, related site and tenant improvements, and includes labor necessary to produce such design and construction and the material and equipment incorporated or to be incorporated in such design and constructing.

The facility must be a fully functional flexible, facility containing enclosed office and open office space, conference rooms, storage, mail and receiving areas, computer space, specialized shops, laboratories and related building and program services areas.

These Request For Proposal (RFP) documents detail the project description and include minimum functional, program, design and facility criteria that the State will absolutely require in the new building. It is the intent of these documents to specify certain minimum requirements of the State for staff space, equipment and adjacency requirements and to establish minimum criteria and procedures to ensure the State's program requirements are translated into a fully functional structure that will fully support its intended use. Nothing in these RFP documents relieves the Design-Builder from its obligation to completely comply with all relevant codes and regulations.

The facility must meet or exceed all minimum functional, program and performance requirements set forth in the Space Needs Program (Section V) and Design Guidelines (Section VI) and the associated Attachments (Section VII). Exceeding the stated requirements is strongly encouraged, provided that the completed facility remains within the required total budgeted (MADCC) price.

The site development requirements to properly support the over-all needs of the facility are extensive and are detailed in the Space Needs Program (Section V-4) and the Design Guidelines (Section VI). In addition to these sections, both state and local governmental regulations will have substantial impact on the successful design.

Section II—Project Description

1. Building Descriptions

Two separate building complexes are included in this project: the Administrative Office Building and the Maintenance Shops Facility. The Space Needs Program (Section V) and Design Guidelines (Section VI) of this RFP discusses the detailed requirements for the design and construction of these building complexes.

The project also includes a Fueling Island and Radio Communications Tower.

A. Administrative Office Building

The Administrative Office Building will be a multistory structure, approximately 94,000 square feet; and will house Olympic Region staff.

1) Summary of space use:

For a detailed analysis of space needs see Section V

<u>Use of space</u>	<u>Number of Employees</u>	<u>Square Feet</u>
Administration	13	2,206
Transportation Planning Office	23	2,482
Trans Aid Office	7	768
Project Development Office	87	10,430
Olympic Region Operations	24	3,148
Program Management	14	1,640
Administration Office	19	2,056
Real Estate Services Office	25	2,528
Design Offices A and B	72	7,240
Construction Offices A and B	67	6,920
Traffic	57	5,748
Conference Rooms		7,440
Copy/Plotter/Workroom		3,210
File/Storage		2,632
Building Support	3	4,212
<i>Building net subtotals:</i>	<i>411</i>	<i>62,660</i>
Allowance for common areas: restrooms, circulation, stairs, elevators, electrical and mechanical spaces, interior and exterior walls.		31,330
<i>Building gross totals:</i>	<i>411</i>	<i>93,990</i>

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- 2) The building should be a cost effective office building, non-monumental, with a 50-year life expectancy. It should express stewardship and public trust and represent the openness and efficiency of WSDOT. State buildings are expected to be efficient and spare. In the initial design, and in full life cycle, the facility should exhibit economy of means.
- 3) The architectural form should be appropriate to the function and the Pacific Northwest region and should avoid appearing institutional or monumental. The buildings should have dignity and human scale and be contiguous with, and sympathetic to, the surrounding community.
- 4) The building design must be LEED "Silver" certified and should serve as a model of conservation of resources and of the State's responsibility to the environment.
- 5) Design should maximize flexibility and should anticipate the needs of future occupants and accommodate those needs in the initial construction.
- 6) Interior space layouts should maximize use of open office design to achieve high space utilization. Private offices on perimeter walls should be strictly limited to maximize exterior views and provide natural daylight to the open office work environment for all employees.
- 7) Layouts should utilize collocation of similar spaces and promote sharing of common areas.
- 8) The complex should incorporate features that facilitate use of mass transit, car pooling, and bicycles.

B. Maintenance Shops Facility

The Maintenance Shops Facility will consist of a complex of buildings totaling approximately 71,000 square feet and will house the Materials Lab, Trades Shop, Signals, Sign Shop, Button Shop, Thermo Plastics Shop, Striping Shop, Work Zone Safety, TEF Radio, Bridge Shop, Central Stores, TEF Equipment Shop and a number of Core support spaces.

1) Summary of space use:

For a detailed analysis of space needs see Section V

Use of Space

Square Feet

Office/Crew Areas

Materials Lab	1,250
Trades	360
Signals	2,440
Signs	310
Buttons	520

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Thermo Plastics	340
Striping	520
Work Zone Safety	590
TEF Radio	180
Bridge Maintenance	780
Central Stores	510
TEF Equipment Maintenance	1,250
Core Areas	4,896
Subtotal Office/Crew Areas	13,946
Shop Spaces	
Materials Lab	4,220
Construction PE	600
Trades	3,080
Signals	3,670
Signs	1,000
Buttons	300
Thermo Plastics	300
Striping	600
Traffic Data Collection	300
Work Zone Safety	250
TEF Radio	1,200
Bridge Maintenance	3,900
TEF Equipment Maintenance	16,880
Subtotal Shop Spaces	36,300
Enclosed Heated Spaces	
Striping	480
Central Stores	5,000
Subtotal Enclosed Heated Spaces	5,480
Enclosed Unheated Storage	
Construction PE	600
Trades	900
Signals	1,200
Thermo Plastics	750
TEF Equipment Maintenance	300
Subtotal Enclosed Unheated Spaces	3,750
Circulation	11,684
<u>Total: All Enclosed Building Areas</u>	<u>71,160</u>

Section II—Project Description

2) **Maintenance Shops Description:** The shops that are to be included in the facility are briefly described below:

a. **Materials Lab**

The function of the Materials Lab is to conduct materials testing for the region and provide testing support for the project offices.

- i. See Section V—3.B1 and V—3.E-4 for details.

b. **Construction PE**

Project Engineering Construction conducts acceptance testing for materials used on their construction projects. The Construction PE's develop a variety of testing reports.

- i. See Section V—3.B2 and V—3.E-4.w for details.

c. **Trades shop / Field Crew:**

The function of the Trades Shop is to perform preventative maintenance, corrective maintenance, new construction, and remodels. In addition they are responsible for plumbing, electrical, masonry, HVAC, and more in a seven-county area spanning nearly 200 buildings. The Trades shop contains:

- i. Wood shop –fabrication of wood products for facilities maintenance
- ii. Lock shop –re-keying and coring locksets requiring the use of countertop, workbench , bench grinder and tumbler; storing of small parts and records
- iii. Generator repair –repair of trailer-mounted generators; storing of parts and tools necessary for the repair of plumbing, HVAC and electrical facility systems.
- iv. See Section V—3.B3 and V—3.E.5 for details.

d. **Signals Department**

The Signals Department is made up of three different crews: Traffic Signal Operations, ITS Maintenance, and Traffic Signal Maintenance.

- i. Traffic Signal Operations: The function of Traffic Signal Operations is to conduct field counts and traffic analysis for all signalized intersections within the region. In addition they conduct traffic signal simulations and computer models for interconnected corridors.
 - See Section V—3.B4A and V—3.E.6 for details.
- ii. ITS (*Intelligent Traffic Signals*) Maintenance: The function of ITS Maintenance is to maintain, repair, and install ITS systems throughout the Olympic region. They also repair and test cabinets in addition to other electronic bench work.

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- See Section V—3.B4B and V—3.E.6 for details.
- iii. **Traffic Signal Maintenance:** The function of Traffic Signal Maintenance is to maintain, repair, and install Traffic Signals, beacons, highway lighting, and other highway-related electrical systems throughout the Olympic region. They also conduct electrical inspections for all ongoing projects throughout the region.
 - See Section V—3.B4C and V—3.E.6 for details.
- e. **Sign Shop**

The function of the Sign Shop is to install and maintain large signs.

 - i. See Section V—3.B5 and V—3.E.7.c for details.
- f. **Button Shop**

The function of the Button Shop is to install and maintain raised pavement markers (RPMs).

 - i. See Section V—3.B6 and V—3.E.7.d for details.
- g. **Thermo Plastics Shop**

The function of the Plastics Shop is to install and maintain plastic pavement markings (transverse markings and symbols). Additionally, they are responsible for striping and channelization changes.

 - i. See Section V—3.B7 and V—3.E.7.d for details.
- h. **Striping Shop**

The function of the Striping Shop is to repaint all highway striping.

 - i. See Section V—3.B8 and V—3.E.7.e for details.
- i. **Work Zone Safety**

The function of the Work Zone Safety (WZS) crew is to provide traffic control for other crews to work on the roadways. They employ several methods of traffic control including flagging, complex multi-lane closures, and emergency event control.

 - i. See Section V—3.B9 and V—3.E.8 for details.
- j. **TEF Radio (*TEF* = “*Transportation Equipment Fund*”)**

The function of the TEF Radio Shop is to design, install and maintain wireless communication systems and ITS systems; repair and troubleshoot electronic equipment; maintain electronic equipment on large state trucks; and stage large systems for telecommunications sites.

 - i. See Section V—3.B10 and V—3.E.10 for details.
- k. **Bridge Shop**

The function of the Bridge Shop is to perform repairs to concrete, wood, and steel structures that carry traffic on or over state highways.

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- i. See Section V—3.B11 and V—3.E.12 for details

l. Central Stores

The function of Central Stores is to maintain and manage the department's consumable inventory and surplus property. A 1.8 million dollar inventory is maintained here. It is comprised of multiple types of highway-related material. In addition, they manage inventory control points calling it "Decentralized purchasing with centralized control." Many deliveries for other departments are made here as well. These deliveries then need to be distributed throughout the site.

- i. See Section V—3.B12 and V—3.E.9 for details

m. TEF Equipment Maintenance Shop

The function of TEF (*"Transportation Equipment Fund"*) Maintenance is to maintain and repair all TEF-owned equipment, prepare new vehicles for service, install warning lights, and any fabrication needed. The shops include:

- i. Light vehicle maintenance
- ii. Heavy vehicle maintenance
- iii. Welding and metal fabrication
- iv. Parts
- v. See Section V—3.B13 and V—3.E.11 for details

n. Core Support Spaces

The Maintenance Shops Facility requires the following spaces to support the overall facility operations:

- i. **Training Room:** A Training Room for up to 80 people should be accessible by all departments.
- ii. **Large Conference Room:** A large conference room for up to 25 people should be accessible by all departments.
- iii. **Break Room:** A Break Room with an adjacent kitchenette should be provided for all employees.
- iv. **Wet Locker:** A Wet Locker Area with proper floor drainage is needed.
- v. See Section V—3.B14 and V—3.E.13 for details

Section II—Project Description

2. Site Description

The 38 acre Project Site is located on the west side of Marvin Road at the intersection of 32nd Avenue, north of Hawks Prairie in Thurston County. The site is undeveloped and shows no previous signs of development.

The Site is zoned Light Industrial (LI) as defined in the Thurston County Land Use Ordinances. See references:

- http://www.co.thurston.wa.us/permitting/Land_Use_Ordinances.htm
- http://municipalcodes.lexisnexis.com/codes/thurston/_DATA/TITLE20/index.html

A. The Site consists of three distinct, contiguous sections:

- 1) The 15 acre central section of the site has frontage on both Marvin Road to the east and 32nd Avenue to the north. The site is currently covered with second growth coniferous trees. This section of the site slopes gently down from the southeast corner at elevation 214ft. to the northwest corner at elevation 198ft.
- 2) The 20 acre southern section of the site is rectangular and has no frontage. The site is currently pastureland. This section of the site slopes at about 5% from elevation 242ft. at the southern property line to where it intersects with the northern boundary, coincident with the central section of the site, at 210ft..
- 3) The 3 acre northern section of the site has frontage on both Marvin Road to the east and 32nd Avenue to the south. The site is triangular and is currently covered with second growth coniferous trees. This section of the site slopes from the northern tip at elevation 218ft. to the southwestern corner at 198ft.. Seasonal runoff appears to pond at the lower elevations, near the center of this section of the site.

B. Existing vegetation: The site is currently covered the second growth forest, predominantly Douglas Fir. The understory is dense, healthy, and almost entirely native species including Knickknick, Salal, Oregon grape, Evergreen huckleberry, sword ferns, and a variety of mosses. Much of this native plant material should be salvaged before clearing begins and reused as part of the site development.

C. Site access and transportation: Marvin Road is a major arterial under the jurisdiction of the City of Lacey. Marvin Road is also a class II bike way. 32nd Avenue NE is a local collector street.

The existing Marvin Road pavement is 24 feet wide, fog-line to fog-line. Approximately 3 feet of paved shoulder is available. Existing pavement on 32nd Avenue is 23ft. wide, with a narrow band of crushed rock surfacing on the shoulders.

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D. Utilities:

- 1) **Sanitary sewer:** There are two sewer lines within a reasonable distance of the site, one on the north end of the site, and one approximately 1200 feet south of the site.
 - a. The first is the 10-inch lateral installed by the Target complex. The end maintenance hole (MH) of this line is at the northern tip of the northern section of the site, approximately 5 feet into the pavement of the west side of Marvin Road.
 - b. The second sewer line available for connection is an 8-inch line to the south.
- 2) **Water system:** A 14-inch ductile iron line with hydrants is installed on the east side of Marvin Road, and a 12" PVC branch with hydrants is installed on the north side of 32nd Avenue NE to, and through, the Project site. The owning utility is the City of Lacey.
- 3) **Stormwater management:**
 - a. The 100-year, 24-hour event precipitation figure is 5 inches.
 - b. No stormwater must be discharged off site, so detention facilities will be required.
- 4) **Power and communications:** Power and communications are available on both Marvin Road and 32nd Avenue NE.
 - a. Power and phone lines on overhead poles are located on the west side of Marvin road.
 - b. Power and phone lines on overhead poles are located on the south side of 32nd avenue.
- 5) **Natural Gas:** Natural gas is available from Puget Sound Energy on both Marvin road and 32nd Avenue NE.
 - a. A 4" gas line is located on the east side of Marvin road.
 - b. The 2" gas line is located on the south side of 32nd Avenue NE.

E. Site Parking, Circulation and Storage: Refer to Space Needs Program (Section V) for detailed information about parking and circulation requirements.

F. Site information furnished by State: Refer to the attachments in Section VII.

- 1) **Site information furnished:**
 - a. Location map
 - b. Site survey

Section II—Project Description

- c. Geotechnical data
- d. Due-Diligence report
- e. Site photos

G. Additional Site requirements: The State has, in good faith, identified relevant site development requirements as part of this RFP. However, the State of Washington, City of Lacey and Thurston County may develop additional requirements for the project. It is the responsibility of the Design-Builder to determine and resolve any such additional requirements.

1) Thurston County Contract:

For assistance with identifying possible constraints and restrictions during the development of proposals, contact:

Chris Kelly Edmark, C.B.O.
Plans Examiner
Building Plan Review Division
Development Services Building #1, 2nd floor
200 Lakeridge Drive SW
Olympia, WA 98502-6045
(360) 754-2255 ext. 6845; or 754-5490

Section II—Project Description

3. Project Budget

The Maximum Allowable Design and Construction Cost (MADCC) is \$26,000,000.

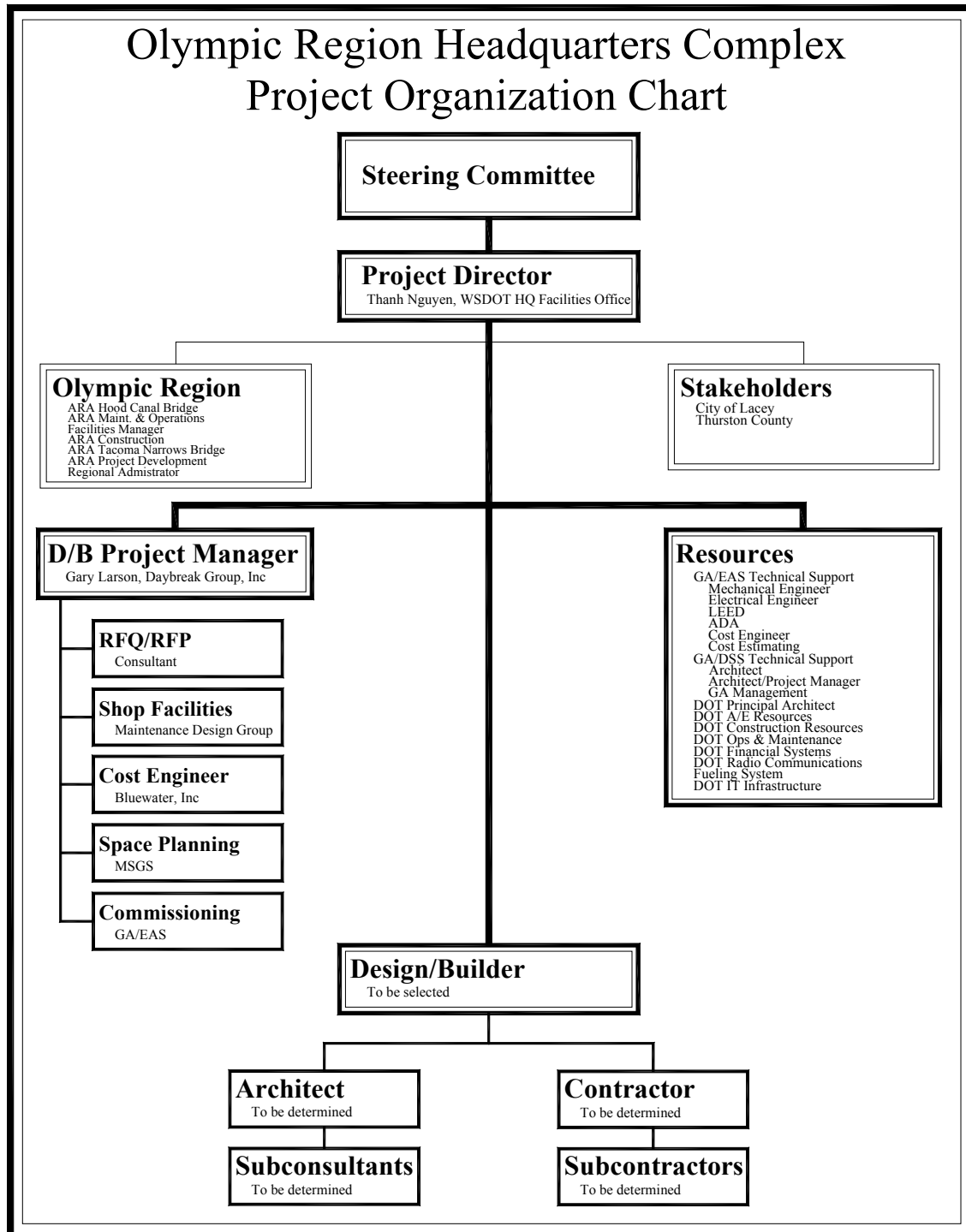
4. Project Schedule

A. Project Milestone Schedule

- Release of RFP April 7, 2006
- Phase I RFQ pre-submittal briefing April 14, 2006
- Phase I RFQ submittal due May 1, 2006
- Phase I RFQ interview May 22, 2006
- Phase I RFQ selection complete (3 to 4 Teams shortlisted) May 24, 2006
- Phase II RFP pre-submittal briefing May 31, 2006
- Phase II RFP Question and Answer period June 1—July 12
- Phase II RFP Quiet time...no Q & A allowed July 13—August 23
- Phase II RFP submittals due August 23, 2006
- Phase II RFP selection completed September 15, 2006
- Pre-award conference September 25, 2006
- Design-Build contract awarded October 10, 2006
- Schematic design review pursuant to proposal
- Design development review pursuant to proposal
- Construction start pursuant to proposal
- Substantial completion pursuant to proposal
- Move in begins pursuant to proposal
- Building occupied pursuant to proposal

Section II—Project Description

5. State's Project Organizational Chart



Section II—Project Description and Contract

6. Contract Requirements

6. Contract Requirements

A. Design Build Agreement

The following pages of this RFP contain the complete Design Build Agreement:

Section II—Project Description and Contract
6. Contract Requirements

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SECTION II-6

DESIGN-BUILD AGREEMENT

By and Between

STATE OF WASHINGTON DEPARTMENT OF TRANSPORTATION
(Owner)

and

(Design-Builder)

for

**OLYMPIC REGION HQ REPLACEMENT
LACEY, WASHINGTON**

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DESIGN-BUILD AGREEMENT

THIS DESIGN-BUILD AGREEMENT is made and entered into as of this ____ day of _____, 2006, by and between the State of Washington Department of Transportation (“Owner”) and _____ organized and existing under the laws of the State of Washington, with its principal office located in _____ Washington (“Design-Builder”).

RECITALS

WHEREAS, on or about _____, Owner issued a Request for Proposals (“RFP”) for the design and construction of the Olympic Region Headquarters Replacement at the Hawks Prairie site in Lacey, Washington (“Project”);

WHEREAS, on or about _____ after evaluating the proposals submitted in response to Phase I of the RFP, Owner invited three proposers, including Design-Builder, to submit Best and Final Proposals (“B&F Proposals”) in response to Phase II of the RFP; and

WHEREAS, on or about _____, Design-Builder submitted its B&F Proposal in response to the RFP; and

WHEREAS, after evaluating Design-Builder’s B&F Proposal in accordance with the processes and criteria set forth in the RFP, Owner determined that its interests would be best-served by negotiating with Design-Builder and attempting to reach agreement on the terms of a design-build contract; and

WHEREAS, Owner and Design-Builder successfully concluded the negotiation process, resulting in Owner issuing a Notice of Intent to Award this Design-Build Agreement to Design-Builder.

NOW, THEREFORE, in consideration of the mutual covenants herein contained, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, intending to be legally bound, the Parties hereto agree as follows:

ARTICLE 1

AGREEMENT; INTERPRETATION; DEFINITIONS

1.1 Documents Included. The Contract Documents include this Design-Build Agreement between Owner and Design-Builder (this “Agreement”) and the following annexes and exhibits which are attached hereto or shall be attached hereto in accordance

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with the provisions of this Agreement (collectively, “Appendices”), and which are specifically made a part of the Contract Documents by this reference:

- RFP Documents, plus Amendments, plus negotiated scope and price adjustments
- Design-Builder’s B&F Proposal (prior to negotiated scope changes)
- Design-Builder’s Project Management Plan, Quality Control Plan, and Close out Plan
- Hourly Rate Sheet for Changes for Design Consultants (to be developed during validation period)

The Contract Documents also include the Construction Documents, which are to be prepared and approved in accordance with Section 3.3.7 hereof.

1.2 Entire Agreement. Any Work which was performed or caused to be performed by Design-Builder prior to the Notice to Proceed shall be deemed to have been performed under and governed by this Agreement. Those Contract Documents in existence as of the Agreement Date set forth the full and complete understanding of the Parties relating to the subject matter hereof as of the Agreement Date, and supersede any and all negotiations, agreements and representations made or dated prior thereto. Contract Documents may be supplemented, modified or otherwise amended after the Agreement Date by mutual written agreement or otherwise in accordance with the terms of this Agreement.

1.3 Conflicting Provisions/Order of Precedence. The Contract Documents are intended to be complementary and a requirement shown in one Contract Document is intended to be as binding as if included in all Contract Documents. In the event of any conflict or inconsistency between or among the Contract Documents, such conflict shall be resolved in accordance with the following order of precedence:

- (1) All written modifications and amendments to this Agreement;
- (2) This Agreement;
- (3) RFP Documents, plus Amendments, plus negotiated scope and price adjustments;
- (4) Construction Documents prepared and approved in accordance with Section 3.3.7 of this Agreement;
- (5) Design-Builder’s B&F Proposal (prior to negotiated scope changes).

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Either Party, upon becoming aware of any conflict or inconsistency between or among any of the Contract Documents, shall promptly notify the other Party in writing of such conflict or inconsistency, with the resolution of such conflict or inconsistency to be made by Owner and provided to Design-Builder in writing. If Design-Builder disagrees with Owner's means of resolution of a conflict or inconsistency, it shall have the right to proceed in accordance with the provisions of Section 8.6 hereof.

1.4 Rules of Interpretation.

1.4.1 Terminology. Unless otherwise required by the context in which any term appears:

- (1) Capitalized terms used in this Agreement shall have the meanings specified in this Article or defined elsewhere in this Agreement.
- (2) The singular shall include the plural and the masculine shall include the feminine and neuter.
- (3) References in this Agreement to "Articles," "Sections," "Annexes," or "Exhibits" shall be to articles, sections, annexes or exhibits of this Agreement, and references to paragraphs shall be to separate paragraphs of the section or subsection in which the reference occurs.
- (4) The words "herein," "hereof," "hereto" and "hereunder" shall refer to this Agreement as a whole and not to any particular section or subsection of this Agreement; the words "include," "includes" or "including" shall mean "including, but not limited to."
- (5) The term "day" shall mean calendar day, the term "month" shall mean a calendar month, and the term "year" shall mean a calendar year. The term "business day" shall mean a weekday on which commercial banks are commonly open in the location where the relevant: (a) payment of funds is to be received; (b) notice is to be received; or (c) performance is to be made; provided, that in the case of (c), if performance is to be made on the Site and if work is normally scheduled to be conducted at the Site on a weekend or holiday, then such day shall be considered a business day. Whenever an event is to be performed by a particular date, or a period ends on a particular date, and the date in question falls on a day that is not a business day, the event shall be performed, or the period shall end, on the next succeeding business day.
- (6) All accounting terms not specifically defined herein shall be construed in accordance with generally accepted accounting principles in the United States of America, consistently applied.

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(7) Use of the word “and” herein shall be construed in the conjunctive form and shall not be construed to mean “or.”

(8) Unless otherwise stated in the Contract Documents, words which have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings. Reference to standard specifications, manuals, or codes of any technical society, organization, or association, or to the code of any Governmental Unit, whether such reference be specific or by implication, shall be to the latest standard specification, manual, or code in effect on the date for submission of B&F Proposal, except as may be otherwise specifically stated. Wherever in the Contract Documents an article, device, or piece of equipment is referred to in the singular manner, such reference shall apply to as many such articles as are shown on the drawings, or required to complete the installation.

1.4.2 Headings. The titles of the articles and sections herein have been inserted as a matter of convenience of reference only, and shall not control or affect the meaning or construction of any of the terms or provisions hereof.

1.4.3 Joint Responsibility for Drafting. This Agreement was negotiated and prepared by both Parties with advice of counsel to the extent deemed necessary by each Party; the Parties have agreed to the wording of this Agreement; and none of the provisions hereof shall be construed against one Party on the ground that such Party is the author of this Agreement or any part hereof.

1.5 Definitions. For the purposes of the Contract Documents, the following words and terms shall have the meanings specified below (other words and abbreviations that have well-known technical or trade meanings are used in the Contract Documents in accordance with such recognized meanings):

1.5.1 Affiliate. A person or entity who, with respect to a specified person or entity, directly or indirectly through one or more intermediaries controls, or is controlled by, or is under common control with, the person or entity specified.

1.5.2 Agreement. This Design-Build Contract between Owner and Design-Builder, as amended from time-to-time as provided herein.

1.5.3 Agreement Date. The date first set forth in the Preamble to this Agreement.

1.5.4 Appendices. As defined in Section 1.1.

1.5.5 Change of Law. Any of the following events, to the extent they materially affect Design-Builder’s obligations: (a) the enactment, adoption, promulgation, modification or repeal, after the Agreement Date, of any Governmental Rule; or (b) the imposition of any

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material condition on the issuance or renewal of any Governmental Approval after the Agreement Date; or (c) the failure to issue or renew any Governmental Approval; provided, however, that none of the following shall be a Change of Law: (i) any Governmental Rule issued, enacted or adopted before the Agreement Date but which does not become effective until after the Agreement Date; (ii) the general requirements contained in any Governmental Approval at the time of application or issuance to comply with future laws, ordinances, codes, rules, regulations or similar legislation; (iii) a change in applicable national or any other income or gross receipts tax law, enacted or effective after the Agreement Date; or any event identified in (a) through (c) above that was caused by Design-Builder's negligence, willful misconduct or failure to comply with its obligations under this Agreement.

1.5.6 Change Order. A written order to Design-Builder pursuant to Article 8 hereof authorizing an addition, deletion or revision in the Work, any change to the Contract Sum, and/or any adjustment to the Guaranteed Completion Date(s).

1.5.7 Construction Documents. Documents developed by Design-Builder pursuant to Section 3.3.7 hereof.

1.5.8 Contract Documents. The documents referenced in Section 1.1 hereof.

1.5.9 Contract Sum. The amount payable to Design-Builder set forth in Section 5.1 hereof, as such amount may be adjusted pursuant to the terms of this Agreement.

1.5.10 Defect or Deficiency. Any failure of the Work or any component of the Work to conform to the requirements of this Agreement, including any breach of the warranty set forth in Section 13.1 hereof.

1.5.11 Design-Builder. The entity has the responsibility for delivery of the project.

1.5.12 Design Consultant. A qualified, licensed design professional who is not an employee of Design-Builder, but is retained by Design-Builder, or employed or retained by anyone under contract with Design-Builder or Subcontractor, to furnish design services required under the Contract Documents.

1.5.13 Design Development Phase: As defined in RFP Section II-6.B.

1.5.14 Design Work Product. As defined in Section 14.2 hereof.

1.5.15 Environmental Law. Any environmental or health and safety-related Governmental Rule or binding guidance document of any applicable Governmental Unit, including but not limited to the State Environmental Policy Act ("SEPA"), Clean Air Act, Model Toxic Control Act, and Shoreline Management Act.

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1.5.16 Equipment and Materials. All of the equipment, materials, machinery, apparatus, structures, supplies and other goods required by the terms of this Agreement to complete the Work and incorporated into the Project. Equipment and Materials shall not include any materials, apparatus or tools owned by Design-Builder or any Subcontractor that are used to complete the Work but are not contemplated under this Agreement to become part of the Work.

1.5.17 Excusable Delay. As defined in Section 10.1 hereof.

1.5.18 Field Authorization. A directive to proceed with work when the processing time for an approved Change Order would impact the Project.

1.5.19 Final Acceptance. The written acceptance issued to Design-Builder by Owner after Design-Builder has completed the requirements of the Contract Documents and achieved Final Completion.

1.5.20 Final Completion. Satisfaction of the conditions set forth in Section 7.4.1 hereof, as evidenced by Owner's issuance of a Final Completion Certificate in accordance with Section 7.4.2 hereof.

1.5.21 Governmental Approval. Any authorization, consent, approval, license, lease, ruling, permit, certification, exemption, or registration by or with any Governmental Unit.

1.5.22 Governmental Rule. Any statute, law, regulation, ordinance, rule, judgment, order, decree, directive, guidance document, by-law or requirement, or any similar form of decision of or determination by, or any interpretation or administration of any of the foregoing by, any Governmental Unit.

1.5.23 Governmental Unit. Any national, state or local government, any political subdivision thereof, or any governmental, quasi-governmental, judicial, public or statutory instrumentality, administrative agency, authority, body or other entity having jurisdiction over the performance of the Work, the Project or the Parties; provided, however, that the term "Governmental Unit" shall not be construed to include Owner.

1.5.24 Guaranteed Completion Date(s). The dates by which Design-Builder guarantees to achieve Substantial Completion and Final Completion, pursuant to Section 7.2 hereof.

1.5.25 Hazardous Materials. Any hazardous or toxic substance or hazardous or toxic waste, contaminant, or pollutant as defined in or regulated by applicable Environmental Laws.

1.5.26 Initial Invoice. The invoice submitted by Design-Builder pursuant to Section 6.1 hereof.

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1.5.27 LEED. Leadership in Energy and Environmental Design.

1.5.28 Liquidated Damages. Damages payable pursuant to Section 7.5.1 hereof.

1.5.29 Notice to Proceed. That notice provided by Owner pursuant to Section 7.1 hereof.

1.5.30 Notice to Proceed Date. The date that Design-Builder receives the Notice to Proceed.

1.5.31 Owner. State of Washington Department of Transportation.

1.5.32 Owner's Design-Build Consultant. The firm engaged by Owner and identified to Design-Builder in accordance with Section 2.4 hereof.

1.5.33 Owner's Representative. The individual designated by Owner pursuant to Section 2.1.2 hereof, who shall have the responsibility and authority specifically delegated to such individual by Owner and made known in writing to Design-Builder.

1.5.34 Owner's Separate Contractors. Those contractors identified in Section 2.3 hereof.

1.5.35 Party. Owner or Design-Builder.

1.5.36 Parties. Owner and Design-Builder.

1.5.37 Project. The Olympic Region Headquarters Replacement at the Hawks Prairie site in Lacey, Washington.

1.5.38 Project Manager. The Project Manager designated by Design-Builder pursuant to Section 3.2.1 hereof.

1.5.39 Project Schedule. The accepted schedule identified in Section 25.1 hereof, updated pursuant to Section 25.2 hereof.

1.5.40 Punchlist. The list of Work, submitted by Design-Builder and approved by Owner, which remains to be completed after Substantial Completion, and updated thereafter as herein provided, which shall be only those items of Work: (a) that do not preclude the Project from operating or functioning as it was designed and intended to operate; (b) the absence of which does not create any occupational hazard or hazard to the Work; and (c) the completion of which will not unreasonably interrupt or interfere with Owner's ability to conduct its operations.

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1.5.41 Quality Management Program (QMP) The plan, developed by the Design-Builder, which identifies the Design-Builder's overall framework for implementation of its Quality Control and Quality Assurance programs across all aspects of the Project, including, but not limited to, management, administration, design, construction, maintenance of public and private facilities, geotechnical investigations, and environmental monitoring and compliance.

1.5.42 Retainage Amount. As defined in Section 6.4.2.

1.5.43 Schematic Design Phase: As defined in RFP Section II-6.B.

1.5.44 Site. The site identified in Section 2.1.1.

1.5.45 Subcontractor. Any person or entity, including any vendor or Design Consultant, with whom Design-Builder has entered into any subcontract to perform any part of the Work, and shall specifically include any person, entity or subconsultant at any tier with whom any Subcontractor has further contracted any part of the Work.

1.5.46 Substantial Completion. As defined in Section 7.3.1.

1.5.47 Value Engineering Change Proposal ("VECP"). As defined in Section 26.1.

1.5.48 WISHA. Washington Industrial Safety and Health Act.

1.5.49 Work. All administrative, design, procurement, supply, installation, construction, supervision, management, testing, labor, Equipment and Materials and other duties and services set forth in this Agreement and, to the extent not covered by this Agreement, in accordance with customarily accepted design, construction and operations standards for correctional facilities in the United States necessary to provide a complete, fully functional and operational project.

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ARTICLE 2 RESPONSIBILITIES OF OWNER

2.1 Owner's Responsibilities. Owner shall be responsible for the following matters and actions:

2.1.1 Access to Site. Provide reasonable rights of ingress and egress to and from the Site for Design-Builder and all Subcontractors, subject to Section 3.5.5 below. The Site shall be available to Design-Builder for all aspects of the Work on the Notice to Proceed Date.

2.1.2 Owner's Representative. Designate, by written notice to Design-Builder on or before the Notice to Proceed, an Owner's Representative, who shall be authorized to act on behalf of Owner, with whom Design-Builder may consult at all reasonable times, and whose written instructions, requests, and decisions will be binding upon Owner as to all matters pertaining to the Contract Documents and the performance of Owner hereunder.

2.1.3 Owner's Governmental Approvals. Owner shall provide, or cause to be provided, reasonable cooperation and assistance to Design-Builder in obtaining Governmental Approvals. Owner's reasonable cooperation and assistance to Design-Builder shall not relieve Design-Builder of its obligations to obtain the Governmental Approvals for which Design-Builder is responsible.

2.1.4 Relevant Information for Design-Builder. Provide, or cause to be provided, to Design-Builder information, within Owner's possession or control, reasonably requested by Design-Builder to enable Design-Builder to fulfill its obligations pursuant to the Contract Documents.

2.1.5 Other Items of Owner Supply. Provide the other items of equipment, materials and services specifically identified in the Contract Documents as being the responsibility of Owner.

2.1.6 Payment Obligations to Design-Builder. Pay to Design-Builder the Contract Sum pursuant to the terms of this Agreement.

2.2 Hazardous Materials. Owner shall be responsible, as between Owner and Design-Builder, for the handling, treatment, storage, removal, remediation, avoidance, or other appropriate action (if any), with respect to any Hazardous Materials present at, on, in or under, or migrating and/or emanating to or from the Site. Owner shall have the sole discretion to determine the action, if any, to be taken with respect to such Hazardous Materials. Notwithstanding the above, Owner shall not be responsible for the Hazardous Materials identified in Section 3.7.4 below, as such Hazardous Materials are the responsibility of Design-Builder.

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2.3 Owner's Separate Contractors. Owner may perform other work on the Project or at or near the Site with Separate Contractors other than the Design-Builder. Owner is responsible for all work performed by Separate Contractors under Owner's control. Owner shall contractually require its Separate Contractors, if any, to cooperate with, and coordinate their activities with Design-Builder in order to enable Design-Builder to timely complete the Work consistent with the Contract Documents. Owner will resolve any disagreements that may arise among the Separate Contractors or the Design-Builder and the Owner over the method or order of doing the Work. Owner's decision in these matters shall be final.

2.4 Engagement of Owner's Design-Build Consultant. Owner may engage an Owner's Design-Build Consultant to perform some of Owner's duties described in the Contract Documents, in which case Owner shall cause Owner's Design-Build Consultant to perform such duties in accordance with the terms of the Contract Documents. Owner shall notify Design-Builder of: (a) the identity of Owner's Design-Build Consultant; (b) the name and title of the person who shall be authorized to act on behalf of Owner's Design-Build Consultant and serve as the primary contact between Design-Builder and Owner's Design-Build Consultant in connection with the Contract Documents; and (c) the duties to be performed by Owner's Design-Build Consultant. If Owner does not engage an Owner's Design-Build Consultant, or discharges Owner's Design-Build Consultant after written notification to Design-Builder, then all references herein to Owner's Design-Build Consultant shall be deemed to refer to Owner.

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ARTICLE 3 RESPONSIBILITIES OF DESIGN-BUILDER

3.1 Design-Builder's General Obligations

3.1.1 Obligation to Perform the Work. Design-Builder shall fully perform all the Work in accordance with and subject to the terms and conditions of the Contract Documents. The Work shall include all services, Equipment and Materials, and all other items that are necessary to satisfy the requirements of the Contract Documents or that are reasonably implied by the Contract Documents.

3.1.2 Responsibility for Subcontractors, Etc. Design-Builder shall be responsible to Owner for all acts and omissions of Design-Builder, any Subcontractor, and their respective employees, agents and representatives. In fulfilling this responsibility, Design-Builder shall enforce strict discipline and good order among all persons performing the Work.

3.1.3 Coordination meetings. Design-Builder to conduct and distribute minutes to all weekly design & construction meetings, all pre-construction & pre-installation meetings, all special purpose meetings and all training sessions. Design progress meetings attended by the state representative shall include key design staff and sub-consultants as appropriate. Weekly construction progress meetings attended by the state representative shall include key design and construction staff along with appropriate sub-consultants and sub-contractors representing the phase of work at the time. The agenda shall include at a minimum a review of; previous minutes, work in progress, construction schedule, Quality Control findings, submittals, proposed changes, as-built drawing status, shop drawings, & project safety. Also include a discussion of observations, conflicts, concerns and status of civil structural, mechanical, electrical, and architectural items. Review draft of the pay application at one meeting per month.

3.2 Design-Builder's Representative and Key Personnel

3.2.1 Design-Builder's Representative. Design-Builder shall designate, by written notice to Owner on or before the Notice to Proceed, an individual ("Project Manager") who shall be authorized to act on behalf of Design-Builder, with whom Owner may consult at all reasonable times, who shall have full supervision over the completion of the Work, who shall be designated to act as the primary point of contact with Owner regarding all matters relating to the Work, and who shall have full authority to bind Design-Builder except to the extent such authority is limited as described in such notice. If the Project Manager's authority is limited, the notice will identify such persons within Design-Builder's organization that do have full authority to bind Design-Builder for all purposes under the Contract Documents. Design-Builder may, at any time by written notice to Owner, change the persons, if any, previously identified as having authority

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beyond that of the Project Manager. Any changes in the Project Manager shall require Owner's prior written approval.

3.2.2 Project Management; Key Personnel.

.1 **Substitution/Replacement of Key Personnel.** Design-Builder shall provide management for the Work in accordance with the organization chart set forth RFP Section III-2.C.13. Design-Builder acknowledges the importance of its Design-Build Project Manager, Design Manager/Coordinator, Lead Designer and Project Superintendent (collectively, "Key Personnel"). Except in the event that the Key Personnel individual is no longer employed (or otherwise under the direction and control) by the Design-Builder, none of the Key Personnel may be withdrawn from the Project without prior written approval of Owner. Design-Builder will provide Owner with at least thirty (30) days written notice of intent to withdraw any Key Personnel and shall provide Owner a copy of the resume of any proposed replacement Key Personnel for Owner's review and acceptance. Owner shall notify Design-Builder within seven (7) days of any objection to the proposed replacement. In the event a Key Personnel leaves the employment of the Design-Builder unexpectedly and without 30 days notice, the Design-Builder will immediately notify Owner upon learning of the departure and will comply with the requirements of this section. Design-Builder shall remove or replace, or have removed or replaced, any personnel performing the Work if Owner has a reasonable objection to such person.

.2 **Contact Information For Key Personnel.** Design-Builder shall furnish in writing to Owner the names, discipline, telephone numbers, emergency contact number of all Key Personnel within 10 days following the Notice to Proceed Date.

3.3 Design Services

3.3.1 General. Design-Builder has full responsibility for the design of the Project in accordance with the Contract Documents. Design-Builder shall, consistent with applicable state licensing laws, provide through qualified, licensed design professionals employed by Design-Builder, or procured from qualified, independently-licensed Design Consultants, those design services necessary for Design-Builder to perform and complete the Work consistent with the Contract Documents. Such design services include, without limitation, those architectural and engineering services required for the preparation of Construction Documents and any other design submittal required under the Contract Documents.

3.3.2 Licenses. Any design professional performing design, engineering, architecture, or landscape architecture services on the Project shall be appropriately licensed as required by the laws of the State of Washington.

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3.3.3 Standard of Care. Design services performed by or through Design-Builder on the Project shall be performed to the standard of care and skill ordinarily used by members of the design profession on projects of similar size, nature and complexity, practicing under similar conditions at the same time and locality of the Project. Notwithstanding the preceding sentence, Design-Builder agrees that if the Contract Documents contain performance standards for any aspect of the Work, the design services shall be performed to achieve such standards notwithstanding the standard of care set forth in the preceding sentence.

3.3.4 Design Consultants Not Third Party Beneficiaries. No Design Consultant is intended to be, nor shall any Design Consultant be deemed to be, a third party beneficiary of this Agreement. Owner is intended to be and shall be deemed a third-party beneficiary of all contracts between Design-Builder and any Design Consultant.

3.3.5 Incorporation Into Design Consultant Contracts. Design-Builder shall incorporate all obligations and understandings of the Contract Documents applicable to design services in its respective contracts with any Design Consultant, and require that such obligations flow down to lower-tiered Design Consultants, including the obligations set forth in Article 14 hereof.

3.3.6 Design Verification and Identification of Scope Issues

.1 Scope Validation Period. During the sixty (60) day period following the Notice to Proceed (“Scope Validation Period”), Design-Builder shall thoroughly review and compare all of the then-existing Contract Documents, including without limitation, the RFP Documents and the B&F Proposal, to verify and validate Design-Builder’s proposed design concept and identify any errors, omissions, inconsistencies, constructability problems, Site conditions or any other defects or concerns of any kind (collectively referred to as “Scope Issues”) that may affect Design-Builder’s ability to complete its proposed design concept within the Contract Sum and Guaranteed Completion Date(s). If Design-Builder finds any Scope Issues, it shall notify Owner in writing of such findings within the Scope Validation Period. Upon such notice, the Parties shall promptly meet and confer to discuss the resolution of such issues. If a Scope Issue could not have reasonably been identified by Design-Builder prior to the Agreement Date, and if resolution of the issue materially impacts Design-Builder’s price or time to perform the Work, Design-Builder shall be entitled to submit a request for Change Order, and Owner shall have the right to act upon such request, in accordance with Article 8 hereof. Notwithstanding anything to the contrary in the Contract Documents or as a matter of law, Design-Builder shall have the burden of proving that the alleged Scope Issue could not have been reasonably identified prior to the Agreement Date and that such Scope Issue materially impacts its price or time to perform the Work.

.2 Design-Builder’s Assumption of Risk of Scope Issues. The Parties acknowledge that the purpose of the Scope Validation Period is to enable Design-Builder

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to identify those Scope Issues that could not reasonably be identified prior to the Agreement Date. Notwithstanding anything to the contrary in the Contract Documents, the Scope Validation Period has not been established for the purpose of enabling Design-Builder to offer VECs, and the term "Scope Issue" is not intended to include VECs. VECs are administered in accordance with Article 26 hereof. By executing this Agreement, Design-Builder acknowledges that the Scope Validation Period is a reasonable time to enable Design-Builder to identify Scope Issues that will materially impact Design-Builder's price or time to perform the Work. Following completion of the Scope Validation Period, with the sole exception of those Scope Issues identified during the Scope Validation Period and identified to Owner in accordance with Section 3.3.6.1 above, the Parties agree as follows:

- (1) Design-Builder shall assume and accept all risks, costs, and responsibilities of any Scope Issue arising from or relating to the Contract Documents, including but not limited to conflicts within or between the RFP Documents and B&F Proposal;
- (2) Design-Builder shall be deemed to have expressly warranted that the Contract Documents existing as of the end of the Scope Validation Period are sufficient to enable Design-Builder to complete the design and construction of the Project without any increase in the Contract Sum or extension to the Guaranteed Completion Date(s); and
- (3) Owner expressly disclaims any responsibility for, and Design-Builder expressly waives its right to seek any increase in the Contract Sum or extension to the Guaranteed Completion Date(s) for, any Scope Issue associated with any of the Contract Documents, including but not limited to the RFP Documents.

3.3.7 Design Development Services

.1 Interim Design Submissions. Design-Builder shall submit to Owner interim design submissions for the Work at completion of Schematic Design Phase and Design Development Phase. On or about the time of the scheduled design submissions, Design-Builder and Owner shall meet and confer about the submissions, with Design-Builder identifying during such meetings, among other things, the evolution of the design and any significant changes or deviations from the Contract Documents, or, if applicable, previously submitted design submissions. Minutes of the meetings will be maintained by Design-Builder and provided to all attendees for review. The Design-Builder shall provide three (3) sets of plans with specifications and one (1) electronic CADD format to the Owner. Following the design review meeting, Owner shall review and provide concurrence of the interim design submissions within a two-week turnaround time.

.2 Construction Documents. Design-Builder shall submit to Owner Construction Documents setting forth in detail drawings, specifications and such other

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materials describing the requirements for construction of the Work. The Construction Documents shall be consistent with the latest set of interim design submissions, as such submissions may have been modified in design review meetings. The Parties shall have design review meetings as needed to discuss, and Owner shall review and approve the Construction Documents in accordance with the procedures set forth Section 3.3.7.1 above. Design-Builder shall proceed with procurement and construction in accordance with the approved Construction Documents for that portion of the Work covered by the Construction Documents. Three (3) sets of approved Construction Documents and one (1) electronic CADD format shall be submitted to Owner prior to commencement of procurement or construction.

.3 Owner's Review. Owner's review and concurrence of interim design submissions and the Construction Documents are for the purpose of mutually establishing a conformed set of Construction Documents compatible with the requirements of the Work. Neither Owner's review nor concurrence of any interim design submissions and/or Construction Documents shall be deemed to transfer any design liability from Design-Builder to Owner, and Design-Builder shall remain responsible for meeting all obligations required under the Contract Documents.

.4 Design-Builder's Ability to Proceed with Procurement and Construction. To the extent not prohibited by the Contract Documents or Legal Requirements, Design-Builder may prepare design submittals and Construction Documents for a portion of the Work to permit procurement and construction to proceed on that portion of the Work prior to completion of the Construction Documents for the entire Work with the written agreement of Owner.

.5 Electronic Files. All design submissions of Design-Builder shall be forwarded to Owner in electronic format pursuant to the requirements of the Contract Documents. Project drawings shall be developed in CADD format, compatible with AutoCAD software. Specifications shall meet CSI Master format requirements and shall be supplied in an electronic file format compatible with Microsoft Word (for word processing), Microsoft Excel (for spreadsheets), Microsoft Access (for database), and Adobe PDF format.

3.4 Site Conditions

3.4.1 Inspection of Site Conditions Prior to Agreement Date. Design-Builder has, as of the Agreement Date, ascertained the nature and location of the Work, the character and accessibility of the Site, the existence of obstacles to construction, the availability of facilities and utilities, the location and character of existing or adjacent work or structures, the surface and subsurface ground and soil conditions, and other general and local conditions (including labor) which might affect its performance of the Work or the cost thereof.

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3.4.2 Inspection of Site Conditions After the Notice to Proceed. Design-Builder will, after the Notice to Proceed, undertake such testing, inspections and investigations as may be necessary to perform its obligations under the Contract Documents, including but not limited to additional geotechnical evaluations. If Design-Builder intends to conduct additional geotechnical evaluations to supplement or corroborate the information contained in the RFP Documents, it shall do so during the Scope Validation Period. Any Scope Issues that arise from such evaluations shall be treated in the manner set forth in Section 3.3.6 above. All reports or analyses generated by Design-Builder's testing, inspections and investigations, including but not limited to additional geotechnical testing, shall be furnished to Owner promptly after such reports or analyses are generated.

3.4.3 Differing Site Conditions. If Design-Builder encounters subsurface or otherwise concealed physical conditions at the Site which differ materially from those indicated in RFP Documents (as such conditions may be further described through reports or analyses undertaken during the Scope Validation Period), or unknown physical conditions of an unusual nature which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, then Design-Builder shall give written notice to Owner promptly and in no event later than seven (7) days after the first observance of the conditions. Conditions shall not be disturbed prior to such notice. If such conditions differ materially and cause a change in Design-Builder's cost of, or time required for, performance of any part of the Work, Design-Builder may be entitled to an equitable adjustment in the Guaranteed Completion Date(s) or Contract Sum, or both, provided it makes a request therefor as provided in Section 8.6 hereof.

3.5 Construction-Related Services. Except as otherwise expressly set forth in the Contract Documents, Design-Builder shall provide the Equipment and Materials, personnel and supervision, tools, equipment and materials and the services required, and shall be responsible for completing the Work in accordance with the terms of the Contract Documents. In furtherance of the foregoing (and not as a limitation thereof), Design-Builder shall:

3.5.1 Handling of Equipment and Materials, Etc. Provide for the handling of Equipment and Materials and construction equipment and materials, including, as necessary, inspection, expediting, shipping, unloading, receiving, customs clearance and transportation to the Site and storage until Substantial Completion, provided, however, that such responsibility shall continue after Substantial Completion as required for Design-Builder to perform its Punchlist and warranty obligations.

3.5.2 Quality of Equipment and Materials, Etc. Ensure that all Equipment and Materials incorporated into the Work shall be new (unless otherwise agreed in writing by Design-Builder and Owner), of the most suitable grade for the purpose intended, and shall meet the requirements of the Contract Documents and all applicable Governmental Approvals. References in the RFP Documents to Equipment and Materials, articles or

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patented processes by trade name, make or catalog number, shall be regarded as establishing a standard of quality expected by Owner. Design-Builder may use Equipment and Materials, articles, or patented processes that are equal to those named in the RFP Documents, subject to the prior written approval of Owner, which approval shall not be unreasonably withheld. Design-Builder shall use Equipment and Materials for which spare parts or replacements (or reasonable substitutes) are commercially available and obtainable under normal circumstances without undue delay or difficulty.

3.5.3 Construction Means, Methods, Etc. Be solely responsible for all construction means, methods, techniques, sequences, procedures, safety and security programs in connection with the performance of the Work, irrespective of approval or consent of Owner's Representative, and take full responsibility for the adequacy, stability and safety of all Site operations.

3.5.4 Care, Custody and Control/Risk of Loss of Design-Builder. Have the full responsibility for care, custody and control of the Work (including all Equipment and Materials in connection therewith, whether or not incorporated therein or located on or off the Site) and bear the risk of loss of the Work in each case until Substantial Completion.

3.5.5 Site Security. Procure, supervise and provide the security measures at the Site to provide adequate security for protection of the building and work site from unauthorized entry. Design-Builder shall be solely responsible for any theft, damage, or injury caused to the Site or the Work. Maintain the security program through Substantial Completion or until Owner occupancy or Owner acceptance precludes the need for Design-Builder security.

3.5.6 Construction Utilities and Facilities at Site. Provide, or cause to be provided, power, communication system, water (including potable water), waste water lines and sewer lines required for the performance of the Work and provide, within the Site, temporary roads, office space, office furniture, telephone facilities, secretarial services, drinking water and sanitary facilities to be used by Design-Builder and/or Subcontractors in the performance of the Work. In addition, provide one full time office space, including, desk, chair and telephone for an Owner's Representative as well as a conference room adequate for weekly construction meeting. Such obligations shall include obtaining and registering all required easements and obtaining all required Governmental Approvals for power lines, telephone lines, gas lines, waste water lines, sewer lines and lines for other utilities, whether on or off the Site. Design-Builder shall also install and maintain all meters required to measure the amount of each activity used for the purpose of determining charges. Prior to the date of final acceptance, Design-Builder shall remove all temporary connections, distribution lines, meters, and associated equipment and materials.

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3.5.7 Maintenance of Site. Keep the Site free on a daily basis from accumulation of waste materials, rubbish and other debris resulting from performance of the Work by depositing same in a waste receptacle furnished by Design-Builder, which receptacle shall be removed and replaced on an as-needed basis. Design-Builder shall make special provisions, in accordance with applicable Governmental Rules, for the storing and removing of any Hazardous Materials waste generated during construction. Within thirty (30) days after the date of Substantial Completion, Design-Builder shall remove from the Site, in conformity with applicable Governmental Rules, all such waste materials, rubbish and other debris, as well as all tools, construction equipment and materials, machinery and surplus material (other than surplus material acquired by Owner and other than materials, tools and construction equipment necessary to complete Punchlist items). Before Final Completion, after completion of the Punchlist items, Design-Builder shall remove all remaining waste and rubbish generated during performance of Punchlist work, and all remaining materials, tools and construction equipment, and leave the Site in neat, clean and usable condition. If Design-Builder fails to clean up as provided herein, and after reasonable notice from Owner, Owner may do so and the cost thereof shall be charged to Design-Builder.

3.5.8 Access to Work and Notification of Excavation. Design-Builder shall provide Owner, Owner's Design-Build Consultant, and Owner's Representative access to the Work in progress wherever located. Before commencing any excavation, Design-Builder shall provide notice of the scheduled commencement of excavation to all owners (including Owner) of underground facilities or utilities, through locator services. The term "excavation" for purposes of the preceding sentence means an operation in which earth, rock, or other material on or below the ground is moved or otherwise displaced by any means, except the tilling of soil less than twelve (12) inches in depth for agricultural purposes, or road ditch maintenance that does not change the original road grade or ditch flow line.

3.5.9 Protection of Existing Structures, Equipment, Vegetation, Etc. Design-Builder shall protect from damage all existing structures, equipment, improvements, utilities, and vegetation at or near the Site. Design-Builder shall only remove trees when specifically authorized to do so, and shall protect vegetation that will remain in place. Design-Builder shall repair any damage, including that to the property of a third party, resulting from failure to comply with the requirements of the Contract Documents or failure to exercise reasonable care in performing the Work. If Design-Builder fails or refuses to repair the damage promptly, Owner may have the necessary work performed and charge the cost to Design-Builder.

3.5.10 Cooperation with Owner's Separate Contractors. The Design-Builder shall cooperate with all of Owner's Separate Contractors, if any, and carefully adapt scheduling and performance of the Work in accordance with these Contract Documents to minimize interference and delay for all forces involved. The coordination of the Work shall be taken into account by the Design-Builder as part of the Site investigation in

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accordance with the RFP Documents and any resulting costs shall be incidental and included with the Contract Sum.

3.5.11 Maintaining Documents at Site. Keep on the Site a copy of all Contract Documents, reviewed shop drawings, referenced “standards”, manufacture’s instructions, Governmental Approvals and any other document in the control of Design-Builder that pertains to the Project. Design-Builder shall provide Owner’s representatives ready access to these documents.

3.5.12 Testing and Inspections. Make arrangements for all such tests, inspections and Government Approvals as are necessary or required to ensure that the Work conforms to the requirements of the Contract Documents. Design-Builder shall maintain complete inspection records and make them available to Owner.

3.6 Responsibility for Health, Safety and First Aid

3.6.1 Responsibility for Safety. Design-Builder shall be fully responsible for the safety (the term “safety” as used in this Section 3.6 being deemed to include working conditions that either are free from known health hazards or provide safeguards against such health hazards) of all persons employed by Design-Builder, Subcontractors, their agents or invitees, or any other person who enters the Site or who would reasonably be expected to be affected by the Work. Design-Builder shall have the right to refuse entry onto the Site by, or to direct removal from the Site of, any employees, agents or invitees of Owner or Owner’s Design-Build Consultant who fail to comply with Design-Builder’s safety regulations at the Site. Design-Builder shall promptly notify Owner of any incidents in which such refusal or removal occurs.

3.6.2 Compliance with Safety and Health Rules. Design-Builder shall take all measures to ensure that the employees, agents and invitees of itself and all Subcontractors, while engaged in the Work comply with and adhere to: (a) all applicable Governmental Rules, including those promulgated by WISHA, relating to safety and health; and (b) Design-Builder’s Accident Prevention Program and safety procedures and rules for the Work. For these purposes, Design-Builder shall:

- (1) Follow WISHA regional directives and provide safety programs that will require an accident prevention and hazard analysis plan for Design-Builder and each Subcontractor on the Site. Design-Builder shall submit a Site-specific safety plan to Owner’s Representative within ten (10) days of the Notice to Proceed and prior to conducting any Work at the Site.
- (2) Provide adequate safety devices and measures including but not limited to, the appropriate safety literature, notice, training, permits, placement and use of barricades, signs, signal lights, ladders, scaffolding, staging, runways, hoist, construction elevators, shoring, temporary lighting, grounded outlets, wiring,

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hazardous materials, vehicles, construction processes, and equipment required by RCW Ch. 19.27, State Building Code (Uniform Building, Electrical, Mechanical, Fire, and Plumbing Codes); Chapter 212-12 WAC, Fire Marshal Standards, RCW Ch. 49.17, WISHA; Chapter 296-155 WAC, Safety Standards for Construction Work; Chapter 296-65 WAC; WISHA Asbestos Standard; WAC 296-62-071, Respirator Standard; WAC 296-62, General Occupation Health Standards, WAC 296-24, General Safety and Health Standards, RCW Ch. 49.70, and Right to Know Act.

- (3) Post all Governmental Approvals in a conspicuous location at the Site.
- (4) Provide any additional measures that Owner determines to be reasonable and necessary for ensuring a safe environment in areas open to the public; provided, however, that nothing in this Agreement shall be construed as imposing a duty upon Owner to prescribe safety conditions relating to employees, public, or agents of Design-Builder, or as constituting any express or implied assumption of control or responsibility over Project site safety.

3.6.3 Preventative Measures. Design-Builder shall take all reasonable measures to prevent injury to persons or damage to any property on the Site, or in the vicinity thereof, as a result of Design-Builder's or Subcontractors' performance of the Work, whether or not a hazardous or potentially hazardous condition exists due to the prosecution of the Work or due to work or activities being performed by Owner or others. Such reasonable measures shall include, but not be limited to: (a) the prevention of fires; (b) the furnishing of temporary construction fences, flagmen, warning signs and barricades; (c) the elimination of excessive dust or smoke emission; (d) the protection of overhead utility lines, underground pipes, conduit or cables; and (e) the protection of existing Work or work in progress by Owner or others.

3.6.4 First Aid. Design-Builder shall make its own arrangements to supply first aid to anyone who may be injured in connection with the Work.

3.6.5 Safety Coordinator. Design-Builder shall designate a Safety Coordinator at the Site, which individual shall be designated in the organizational chart set forth in RFP Section III-2.C.13. The Safety Coordinator shall be on the Site at all times that any Work is being performed. The Safety Coordinator shall be responsible for safe working conditions and compliance with all applicable Governmental Rules relating to safety and health.

3.6.6 Breach of Safety Obligations. Failure of Design-Builder to perform the obligations set forth in this Section 3.6 may be deemed by Owner to constitute a material default under Section 15.1.7 hereof.

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3.7 **Hazardous Materials**

3.7.1 Design-Builder's Responsibilities. Design-Builder's responsibility for Hazardous Materials shall include the following duties:

- (1) Design-Builder shall not keep, use, dispose, transport, generate, or sell on or about the Site any Hazardous Materials, and in no case shall any Hazardous Material be stored more than ninety (90) days on the Site;
- (2) Design-Builder shall exclude the use of lead paint and minimize the use of acetone and chlorinated substances at the Site; and
- (3) Design-Builder shall promptly notify Owner of: (a) all spills or releases of Hazardous Materials; (b) any failure to comply with Environmental Laws or Governmental Rules applicable to Hazardous Materials; (c) all inspections of the Site by any Governmental Unit relative to Hazardous Materials; (d) any and all fines imposed by Governmental Units relative to Hazardous Materials; and (e) all responses or interim cleanup actions taken by or proposed to be taken by any Governmental Unit or private party on the Site.

3.7.2 Discovery of Hazardous Materials. If Design-Builder encounters any Hazardous Material in or on the Site which creates an imminent or substantial safety or health hazard for Owner, Design-Builder, any Subcontractor or their employees, agents or representatives, or the general public or the surrounding environment, Design-Builder shall suspend the performance of the Work to the extent required to avoid any such safety or health hazard until action sufficient to protect the interests of such parties is taken. Design-Builder shall notify Owner immediately upon encountering any Hazardous Materials in or on the Site, and shall thereafter follow the directions of Owner.

3.7.3 Design-Builder Liability. Notwithstanding anything to the contrary in the Contract Documents, Design-Builder shall be responsible, at its sole cost and expense, for the handling, treatment, storage, removal, remediation, avoidance, or other appropriate action (if any), with respect to any Hazardous Materials present at, on, in or under, or migrating and/or emanating to or from the Site, that: (a) were brought or caused to be brought on the Site by any act or omission of Design-Builder or any Subcontractor pursuant to the performance of the Work; (b) were handled, treated or stored at the Site by Design-Builder or any Subcontractor in violation of any applicable Governmental Rule; or (c) were the result of any negligent, willful, or unlawful act or omission of Design-Builder or any Subcontractor. Owner shall have the sole discretion to approve the action, if any, to be taken by Design-Builder with respect to the handling, treatment, storage, removal, remediation, avoidance, or other appropriate action (if any), with respect to any such Hazardous Materials.

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3.8 Labor

3.8.1 Labor Relations Generally. Design-Builder shall use reasonable efforts in the selection and continuing employment of labor and Subcontractors (whether directly or indirectly employed) so as to cause no conflict or interference with or between the various trades, or delay in performance of Design-Builder's obligations. Design-Builder shall be responsible for all labor relations matters relating to the Work and shall at all times use reasonable efforts to maintain harmony among unions and other personnel employed in connection therewith. Design-Builder shall coordinate all Work and the trades of all labor. Design-Builder shall at all times use its best efforts and judgment as an experienced Design-Builder to adopt and implement policies and practices designed to avoid work stoppages, slowdowns, disputes and strikes. Design-Builder shall be solely responsible for any work stoppages, slowdowns, disputes and/or strikes at the Site and such shall not be deemed an Excusable Delay or entitle Design-Builder to a Change Order or an extension of the Guaranteed Completion Date(s), except as specifically provided in Section 10.1(12) hereof.

3.8.2 Notice to Owner of Labor Disputes. If Design-Builder has knowledge that any actual or potential labor dispute is delaying or threatens to delay timely performance in accordance with the Contract Documents, Design-Builder shall immediately give notice, including all relevant information, to Owner.

3.9 Subcontractors

3.9.1 Responsibility. Design-Builder shall use Subcontractors that are experienced and qualified, and meet the requirements of the Contract Documents, if any. Design-Builder shall schedule, supervise, and coordinate the operations of all Subcontractors. No subcontracting of any of the Work shall relieve Design-Builder from its responsibility for the performance of the Work in accordance with the Contract Documents.

3.9.2 Subcontract Requirements. By appropriate written agreement, Design-Builder shall require each Subcontractor, so far as applicable to the Work to be performed by the Subcontractor, to be bound to Design-Builder by terms of the Contract Documents, and to assume toward Design-Builder all the obligations and responsibilities which Design-Builder assumes toward Owner in accordance with the Contract Documents. Each subcontract shall preserve and protect the rights of Owner in accordance with the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights. Each subcontract shall also:

- (1) Provide for an assignment by Design-Builder to Owner, provided that:
 - (a) The assignment is effective only after termination by Owner for default pursuant to Article 15 hereof and only for those subcontracts which Owner accepts by notifying the Subcontractor in writing; and

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(b) After the assignment is effective, Owner will assume all future duties and obligations toward the Subcontractor which Design-Builder assumed in the subcontract.

(c) The assignment is subject to the prior rights of the surety, if any, obligated under any bond provided in accordance with the Contract Documents.

(d) As to Design Consultants, Design-Builder shall ensure that the contracts of all Design Consultants of any tier are subject to the right of Owner to receive an assignment of such contract, regardless of who is in privity of contract with such Design Consultant.

(2) Include a provision that if timely performance of any such contract is delayed or threatened by delay by any actual or potential labor dispute, Subcontractor shall immediately notify the next higher tier Subcontractor or Design-Builder, as the case may be, of all relevant information concerning the dispute.

(3) Mandate that each Subcontractor comply with all Governmental Rules and Approvals, including but not limited to those associated with labor, that are applicable to Design-Builder.

3.9.3 Subcontractor Identification. Design-Builder shall furnish in writing to Owner within 10 days of the Notice to Proceed the names, addresses, telephone numbers, emergency contact name and number, and Tax Identification Numbers (TIN) of all Subcontractors, except those supplying materials with a value of less than \$2,500, under contract with Design-Builder. Design-Builder shall supplement such list on a monthly basis for those Subcontractors (except those supplying materials with a value of less than \$2,500) who are contracted with Design-Builder after the initial list is submitted to Owner. Design-Builder shall designate all Subcontractors which they believe to be, or who have identified themselves to Design-Builder as, MBE, WBE, or Washington State OMWBE certified. Design-Builder shall indicate the anticipated dollar value of each MBE, WBE or OMWBE subcontract. Design-Builder shall not use any Subcontractor to whom Owner has a reasonable objection, and shall obtain Owner's written consent before making any substitutions or additions to Subcontractors previously identified to Owner.

3.10 Governmental Rules and Governmental Approvals

3.10.1 Governmental Rules. Subject to the terms and conditions of the Contract Documents, Design-Builder shall comply and shall cause all Subcontractors, employees, agents and representatives to comply with all applicable Governmental Rules in connection with the performance of Design-Builder's obligations under the Contract Documents. Design-Builder agrees to indemnify, defend, and hold Owner harmless from

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and against all fines, penalties, related costs and expenses attributable to any failure of Design-Builder or any Subcontractors, employees, agents or representatives, to comply with such Governmental Rules in connection with the performance of Design-Builder's obligations under the Contract Documents and to take all reasonable actions to enforce compliance with this provision.

3.10.2 Governmental Approvals. Design-Builder shall pay for and obtain all Governmental Approvals, including but not limited to those Governmental Approvals required by any Environmental Law, or required to perform the Work in accordance with the Contract Documents. Design-Builder shall submit copies of each Governmental Approval to Owner's Representative and shall post Governmental Approvals at the Site, as required by Governmental Rules. Prior to Final Acceptance, the approved, signed Governmental Approvals shall be delivered to Owner.

3.11 Assistance to Owner. Provide to Owner information reasonably requested by Owner to enable it to fulfill its obligations under the Contract Documents. This obligation shall include, but not be limited to, providing such assistance as is reasonably requested by Owner in dealing with any Governmental Unit in matters relating to the Work and the Project.

3.12 Design-Builder's Performance and Payment Bonds. Design-Builder shall provide Owner, concurrently with execution of this Agreement, an executed Contract Bond in an amount equal to 100% of the Contract Sum.

This Contract Bond shall:

1. Be on a WSDOT furnished form (RFP Section II-6.B);
2. Be signed by an approved Surety (or Sureties) that:
 - (a). Is registered with the Washington State Insurance Commissioner, and
 - (b). Appears on the current Authorized Insurance List in the State of Washington published by the Office of the Insurance Commissioner,
3. Be conditioned upon the faithful performance of the Contract by the Design-Builder within the prescribed time; and
4. Guarantee that the Surety shall indemnify, defend, and protect WSDOT against any claim of direct or indirect loss resulting from the failure:
 - (a) Of the Design-Builder (or any of the employees, Subcontractors, or lower tier subcontractors of the Design-Builder) to faithfully perform the Contract, or
 - (b) Of the Design-Builder (or the Subcontractors or lower tier subcontractors of the Design-Builder) to pay all laborers, mechanics, Subcontractors, lower tier subcontractors, material, or any other person who provides supplies or provisions for carrying out the work.

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WSDOT may require Sureties or Surety companies on the Contract Bond to appear and qualify themselves. Whenever WSDOT deems the Surety or sureties to be inadequate, it may, upon written demand, require the Design-Builder to furnish additional Surety. Until the added Surety is furnished, payments on the Contract will stop. Bonds must be issued by a Surety with a Best's rating of at least "A" or better and Financial Size Category of VIII or better by A.M. Best Co.

3.13 Merchantable Timber

If the Work requires removal of merchantable timber that is to be cut, for any such amounts over 5,000 board feet, the following is required: No person may export from the United States, or sell, trade, exchange, or otherwise convey to any other person for the purpose of export from the United States, timber originating from the Work. The Proposer shall comply with the Forest Resources Conservation and Storage Relief Amendments Act of 1993, (Public Law 103- 45), and the Washington State Log Export Regulations (WAC 240-15).

This project contains merchantable timber.

Export Restrictions - DOT Form 410-100, Purchaser Certification for Export Restricted Timber, will be included when the agreement is sent to the Proposer for execution. The form shall be completed and signed by the Proposer. The Proposer shall send the white copy with the original signature directly to the Washington State Department of Revenue at the address on the form. The Proposer must send the pink copy along with the other documents required by Section 1-03.3 to the Contracting Agency with the executed contract. State Tax Requirements - It shall be the Proposer's responsibility to pay to the State Department of Revenue all taxes on harvested timber

3.14 Gratuities. The Proposer shall not extend any loan, gratuity or gift of money in any form whatsoever to any employee or officer of the State, nor will the Proposer rent or purchase any equipment or materials from any employee or officer of the State. Before the final Acceptance letter, the Proposer shall execute and furnish the Owner an affidavit certifying compliance with these provisions of the Design-Build Agreement. The Proposer shall comply with all applicable sections of the State Ethics Law, RCW 42.52, which regulates gifts to State officers and employees. Under that statute, any Contracting Agency officer or employee who has or will participate with the Proposer regarding any aspect of this Design-Build Agreement is prohibited from seeking or accepting any gift, gratuity, favor or anything of economic value from the Proposer. Accordingly, neither the Proposer nor any agent or representative shall offer anything of economic value as a gift, gratuity or favor directly or indirectly to any such officer or employee.

3.15 Art in Public Places Program. The Proposer shall provide for and coordinate with the Washington State Art Commission and the Owner, for acquisition of Works of Art. This would be pursuant to Chapter 43.17.200 RCW, allocating ½ of 1% of the

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construction cost, in this WSDOT project, for the Office Building only, not to include Shops

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ARTICLE 4

DESIGN-BUILDER'S REPRESENTATIONS AND WARRANTIES; LICENSES

4.1 Representations and Warranties of Design-Builder. Design-Builder makes the following representations and warranties to Owner, each of which is true and correct as of the Agreement Date:

4.1.1 Due Organization, Power and Authority. Design-Builder is a corporation duly organized, existing and in good standing under the Governmental Rule of the State of Washington; Design-Builder possesses all requisite power and authority to enter into and perform this Agreement and to carry out the transactions contemplated herein; and Design-Builder has all legal power and authority to own and use its properties and to transact the business in which it is engaged and holds or expects to obtain in a timely manner all material franchises, licenses, and permits required therefore;

4.1.2 Binding Obligation. Design-Builder's execution, delivery, and performance of this Agreement have been duly authorized by, and are in accordance with, its articles of incorporation and by-laws; this Agreement has been duly executed and delivered for it by the signatories so authorized; and this Agreement constitutes Design-Builder's legal, valid, and binding obligation;

4.1.3 No Existing Breach or Default. Design-Builder is not currently in breach of, in default under, or in violation of, and the execution and delivery of this Agreement and the performance of its obligations hereunder will not constitute or result in any breach of, default under or violation of, any applicable Governmental Rule of any Governmental Unit, or the provisions of Design-Builder's articles of incorporation or by-laws, or any franchise or license, or any provision of any indenture or any evidence of indebtedness or security therefor, lease, contract, license or other agreement by which it is bound, except for such breaches, defaults or violations as will not, either individually or in the aggregate, result in a material adverse effect on the ability of Design-Builder to perform its obligations hereunder;

4.1.4 No Pending Litigation, Etc. No suit, claim, action, arbitration, or legal, administrative or other proceeding is pending or, to the best knowledge of Design-Builder, threatened against Design-Builder that could affect the validity or enforceability of this Agreement, the ability of Design-Builder to fulfill its commitments hereunder in any material respect, or that would result in any material adverse change in the business or financial condition of Design-Builder; and

4.1.5 Design-Builder Qualified to Perform the Work. Design-Builder has full experience and proper qualifications to perform the Work and to construct the Project.

4.1.6 Evaluation of Conditions Affecting the Work. Design-Builder has carefully examined the RFP Documents, including any Addenda issued to such documents, and any

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and all conditions, which could in any way affect its performance of the Work, including but not limited to:

- (1) examining and carefully studying the RFP Documents, including any Addenda and other information or data identified in the RFP Documents;
- (2) visiting the Site and becoming familiar with and satisfying itself as to the general, local, and Site conditions that may affect the cost, progress, or performance of the Work, including but not limited to the impact to ingress and egress to the Site required by security measures at the Site;
- (3) becoming familiar with and satisfying itself as to all Governmental Rules that may affect the cost, progress, or performance of the Work; and
- (4) determining that the RFP Documents were sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work and sufficient to enable Design-Builder to commit to the Contract Sum and Guaranteed Completion Date(s).

By representing warranting that it has so evaluated the above-referenced conditions, Design-Builder confirms that the Contract Sum and its agreement to complete on or before the Guaranteed Completion Date(s) assume the risk of any and all such conditions set forth above, and that it shall not make a request for a Change Order or equitable adjustment for such conditions, subject to Design-Builder's rights under Section 3.3.6 above.

4.2 Licenses. Pursuant to RCW Ch. 39.06, Design-Builder shall be registered or licensed as required by the laws of the State of Washington, including but not limited to RCW Ch. 18.27. Design-Builder shall not knowingly employ or permit any Subcontractor to employ in connection with its performance under the Contract Documents any unfit person or anyone not skilled in the work assigned to such person.

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ARTICLE 5 CONTRACT SUM AND TAXES

5.1 Contract Sum. The Contract Sum shall be the lump sum of \$_____ which shall be paid to Design-Builder in accordance with Article 6 hereof. The Contract Sum shall be complete compensation for all Work to be performed by Design-Builder under the Contract Documents, and is subject to increases or decreases by Change Order only as specifically provided in this Agreement.

5.2 Taxes. The Contract Sum shall include all taxes imposed by law and properly chargeable to the Project, including: (a) withholding, payroll and any other employee-related taxes on employees of Design-Builder or Subcontractors; (b) taxes based on the income or revenues of Design-Builder or Subcontractors; (c) taxes related to construction consumables; and (d) taxes levied by any Governmental Unit upon the services and labor provided by Design-Builder in connection with the Work, including but not limited to Washington State Business and Occupation Tax. Design-Builder shall confer with the Washington State Department of Revenue if it has any questions about the processing of Washington State taxes, provided, however, that Design-Builder bears full and sole responsibility for any interpretations it receives from Washington State Department of Revenue that are ultimately found inconsistent with applicable Governmental Rules associated with such taxes.

5.3 Washington State Sales Tax. Notwithstanding Section 5.2 above, the Contract Sum does not include Washington State Sales Tax (WSST). Owner will include applicable WSST in progress payments, and Design-Builder shall pay the WSST to the Department of Revenue and shall furnish proof of payment to Owner upon Owner's request.

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ARTICLE 6 PAYMENT TERMS

6.1 Schedule of Values. Design-Builder shall within 14 days after Notice to Proceed submit to Owner for approval a breakdown allocating the total Contract Sum to each principle category of work and each specification section, in such detail as requested by Owner and established by the RFP Documents (“Schedule of Values”). The Schedule of Values will: (a) subdivide the Work into its respective parts; (b) include values for all items comprising the Work (no individual line item shall be valued greater than \$100,000.00); (c) contain not less than 3% of the total Contract Sum for demobilization, record drawings, punch list work and any other requirements for Project close-out; and (d) be used by Owner as the basis for progress payments. Payment for Work shall be made only for and in accordance with those items included in the Schedule of Values. Identify Work, if any, to be performed by minority-owned and/or women owned business enterprises (MBE and WBE).

6.2 Applications for Payment

6.2.1 Form of Application. Design-Builder shall, on or before the twenty-fifth (25th) day of each month, submit to Owner an itemized Application for Payment, completed in accordance with the Contract Documents and the approved Schedule of Values. Each application shall be supported by such substantiating data as Owner may require. When Design-Builder submits its monthly Application for Payment, it shall include, in addition to other requirements of the Contract Documents the following: (a) a completed Affidavit of Amounts Paid Minority and Women’s Business Enterprises (MBE/WBE) form and such other requirements as are identified in Article 22 hereof; (b) a completed Statement of Apprentice/Journeyman Participation form and such other requirements as set forth in Article 23 hereof; and (c) a waiver and release of claims and mechanic’s liens in the form provided in RFP Section II-6.B. Payments will not be considered due and payable by Owner unless these forms are properly completed and timely received by Owner.

6.2.2 Certification. By submitting an Application for Payment, Design-Builder: (a) certifies that all Subcontractors have been paid, less earned retainage in accordance with RCW 60.28.010, as their interests appeared in the last preceding Application for Payment, if payment for the application has been paid to the Design-Builder more than 10-days prior to the current application; and (b) recertifies that Design-Builder’s prior certifications are true and correct, to the best of Design-Builder’s knowledge, as of the date of the Application for Payment.

6.2.3 Reconciliation. At the time it submits an Application for Payment, Design-Builder shall analyze and reconcile, to the satisfaction of Owner, the actual progress of the Work with the Project Schedule.

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6.2.4 Stored Materials. If authorized by Owner, the Application for Payment may include request for payment for material delivered to the Site and suitably stored, or for completed preparatory work. Payment may similarly be requested for material stored off Site, provided Design-Builder complies with or furnishes satisfactory evidence of the following:

- (1) The material will be placed in a warehouse that is structurally sound, dry, lighted and suitable for the materials to be stored;
- (2) The warehouse is located within a 10-mile radius of the Project. Other locations may be utilized, if approved in writing, by Owner;
- (3) Only materials for the Project are stored within the warehouse (or a secure portion of a warehouse set aside for the Project);
- (4) Design-Builder furnishes Owner a certificate of insurance extending Design-Builder's insurance coverage for damage, fire, and theft to cover the full value of all materials stored, or in transit;
- (5) The warehouse (or secure portion thereof) is continuously under lock and key, and only Design-Builder's authorized personnel shall have access;
- (6) Owner shall at all times have the right of access in company of Design-Builder;
- (7) Design-Builder and its surety assume total responsibility for the stored materials; and
- (8) Design-Builder furnishes to Owner certified lists of materials stored, bills of lading, invoices, and other information as may be required, and shall also furnish notice to Owner when materials are moved from storage to the Site.
- (9) Design-Builders Quality Control Manager provides certification that the material complies with the RFP & Contract requirements.

6.3 Progress Payments

6.3.1 Payment. Owner shall make progress payments, in such amounts as Owner determines are properly due, within thirty (30) days after receipt of the Initial Invoice or a properly executed Application for Payment. Owner shall notify Design-Builder in accordance with RCW Ch. 39.76 if an Application for Payment does not comply with the requirements of the Contract Documents or if payment will be withheld.

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6.3.2 Retainage. Pursuant to RCW 60.28, Owner shall retain five percent (5%) of the amount of each progress payment due under an Application for Payment until at least forty-five (45) days after Final Acceptance and receipt of all documents required by Governmental Rule or the Contract Documents, including, at Owner's request, consent of surety to release of the retainage. In accordance with RCW Ch. 60.28, Design-Builder may request that monies reserved be retained in a fund by Owner, deposited by Owner in a bank or savings and loan, or placed in escrow with a bank or trust company to be converted into bonds and securities to be held in escrow with interest to be paid to Design-Builder. Owner may permit Design-Builder to provide an appropriate bond in lieu of the retained funds. Retainage shall be released in accordance with RCW Ch. 60.28.

6.3.3 Title to Work Covered by Progress Payments. Title to all Work and materials covered by a progress payment shall pass to Owner at the time of such payment free and clear of all liens, claims, security interests, and encumbrances. Passage of title shall not, however, relieve Design-Builder from any of its duties and responsibilities for the Work or materials, or waive any rights of Owner to insist on full compliance by Design-Builder with the Contract Documents.

6.4 Final Payment

6.4.1 Application for Final Payment. Once Owner has issued a Certificate of Final Acceptance, Design-Builder shall be entitled to submit an Application for Final Payment, which application will include the following information:

- (1) an affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which Owner might in any way be responsible have been paid or otherwise satisfied and that there are no claims, obligations or liens outstanding or unsatisfied for labor, services, Equipment and Material, taxes or other items performed, furnished or incurred for or in connection with the Work which will in any way affect Owner's interests;
- (2) a written notice of any outstanding disputes or claims between Design-Builder and any of its Subcontractors, including the amounts and other details thereof;
- (3) a general release executed by Design-Builder waiving, upon receipt of final payment by Design-Builder, all claims, except those claims pending in accordance with Article 11 hereof;
- (4) consent of Design-Builder's surety to final payment;
- (5) certificates of insurance confirming that required coverages will remain in effect and will not be canceled or allowed to expire until at least 30 days' prior

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written notice has been given to Owner, consistent with the requirements of the Contract Documents; and

(6) a written statement that Design-Builder knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents.

6.4.2 Payment. Within sixty (60) days after receipt of an acceptable Application for Final Payment, Owner shall pay to Design-Builder the unpaid balance of the Contract Sum, reduced by any amounts owed by Design-Builder to Owner pursuant to this Agreement which have not been paid by Design-Builder. Retainage funds shall be released pursuant to RCW Ch. 60.28.

6.4.3 Continuing Obligations. Neither Final Acceptance nor final payment shall release Design-Builder or its sureties from any obligations of these Contract Documents, or any bonds, or constitute a waiver of any claims by Owner arising from Design-Builder's failure to perform the Work in accordance with the Contract Documents.

6.4.4 Waiver and Release. Acceptance of final payment by Design-Builder or any Subcontractor shall constitute a waiver and release to Owner of all claims by Design-Builder, or any such Subcontractor, for an increase in the Contract Sum or Guaranteed Completion Date(s), and for every act or omission of Owner relating to or arising out of the Work, except for those claims made in accordance with Article 11 hereof.

6.5 Owner's Right to Withhold Payment and Offset

6.5.1 Withholding of Payment. Owner may on written notice withhold or, on account of subsequently discovered evidence, nullify the whole or part of any payment to such extent as may be necessary to protect Owner from loss or damage for reasons including but not limited to:

- (1) Work not in accordance with the Contract Documents;
- (2) Reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- (3) Reasonable evidence that the work cannot be completed within the time designated in the Contract Documents.
- (4) Work by Owner to correct defective Work or to complete the Work;
- (5) Design-Builder's failure to perform in accordance with the Contract Documents; and

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(6) Work that has not been certified to in compliance by the Design-Builders Quality Control Manager.

(7) Costs, claims or liability that are the result of Design-Builder's failure to perform in accordance with the Contract Documents, including but not limited to Liquidated Damages.

6.5.2 Owner's Offset Rights. If, at the time any payment by Owner is due under this Article 6, Design-Builder is liable to Owner for any amounts in accordance with the provisions of the Contract Documents (including Liquidated Damages), Owner may deduct the outstanding amount of such claims against Design-Builder from the amount payable to Design-Builder.

6.5.3 Payment Disputes. If Design-Builder disputes Owner's determination of payments due hereunder, or disputes any offsets or withholding by Owner, Design-Builder shall have the right to submit the dispute for resolution in accordance with Article 11 hereof. Pending resolution of any such dispute, Design-Builder shall continue its performance of the Work in accordance with the Contract Documents. Amounts determined by such resolution process to have been properly due shall be payable by Owner within thirty (30) days after (a) the effective date of the Parties' negotiated settlement or (b) absent such settlement, the arbitration award issued pursuant to Section 11.2 hereof.

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ARTICLE 7 CONTRACT TIME

7.1 Commencement of Work. Design-Builder shall commence the Work upon its receipt of a written notice from Owner (“Notice to Proceed”) authorizing Design-Builder to commence the Work, whereupon Design-Builder shall diligently pursue performance of the Work in accordance with the Contract Documents. Design-Builder may, in its discretion and at its risk, perform Work prior to the Notice to Proceed, provided, however, that if the Notice to Proceed is ultimately issued by Owner, then all Work performed prior to the Notice to Proceed shall be deemed to have been performed under the Contract Documents and shall be subject to the terms and conditions of the Contract Documents.

7.2 Guaranteed Completion Date(s)

7.2.1 Substantial Completion. Design-Builder guarantees that it will achieve Substantial Completion on or before 720 days of the Notice to Proceed.

7.2.2 Final Completion. Design-Builder guarantees that it will achieve Final Completion within sixty (60) days of Substantial Completion.

7.2.3 Adjustments to the Guaranteed Completion Date(s). The Guaranteed Completion Date(s) for Substantial Completion and Final Completion shall be subject to adjustment in accordance with Article 10 hereof.

7.2.4 Time is of the Essence. Design-Builder acknowledges that performing the Work so as to achieve the Guaranteed Completion Date(s) is of the essence of this Agreement.

7.2.5 Performance of the Work. Design-Builder represents that the Work shall be planned, organized and executed in accordance with the Project Schedule to achieve the Guaranteed Completion Date(s). The Design-Builder is expected to do all things necessary in order to achieve the Guaranteed Completion Date(s). Accordingly, it is anticipated the Design-Builder will take special measures as necessary to meet the Guaranteed Completion Date(s). These measures may include such things as applying additional resources, working longer or additional shifts or other measures chosen by the Design-Builder. Design-Builder shall bear all costs related to such overtime, additional personnel and other measures.

7.3 Substantial Completion

7.3.1 Conditions of Substantial Completion. Substantial Completion is the stage in the progress of the Work (or portion thereof designated and approved by Owner) when the construction is sufficiently complete, in accordance with the Contract Documents, so Owner can fully occupy the Work (or the designated portion thereof) for the use for

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which it is intended. All Work other than incidental corrective or Punchlist work shall be completed as of Substantial Completion, and Substantial Completion shall not have been achieved if: (a) any systems and parts are not functioning as required by the Contract Documents; (b) utilities are not connected and operating normally; (c) all required occupancy permits have not been issued; or (d) the Work is not accessible by normal vehicular and pedestrian traffic routes.

7.3.2 **Punchlist**

.1 **Design-Builder's Creation of Punchlist.** Design-Builder shall prepare a Punchlist and provide it to Owner together with an estimate of time to complete and/or correct each Punchlist item.

.2 **Owner's Action on Punchlist.** Owner shall notify Design-Builder within ten (10) business days after receipt of the Punchlist that it accepts such Punchlist and estimate of time or shall otherwise state its reasons for disagreement therewith in reasonable detail.

.3 **Condition Precedent to Substantial Completion.** Design-Builder's creation of a Punchlist, and Owner's Approval of such Punchlist, shall be a condition precedent to achieving Substantial Completion.

7.3.3 **Substantial Completion Certificate**

.1 **Design-Builder's Issuance of Certificate.** When Design-Builder believes that Substantial Completion has occurred, it shall issue a Substantial Completion Certificate, supported by such information required by the Contract Documents.

.2 **Owner's Review of Certificate.** Owner shall review and accept or reject the Substantial Completion Certificate issued by Design-Builder within ten (10) business days of its receipt of such certificate, and, if applicable, will specifically identify its reasons for rejection. If Design-Builder accepts the reasons for such rejection, it shall take corrective action and submit a new certificate to Owner. If Design-Builder disagrees with the reasons for the rejection, it shall promptly notify Owner, whereupon Design-Builder and Owner shall meet to attempt to resolve the disagreement. If the disagreement cannot be resolved within five (5) business days, Design-Builder shall act in accordance with the instructions of Owner without prejudice to its rights under Article 11 hereof.

7.3.4 **Prior Occupancy.** Owner may, upon written notice thereof to Design-Builder, take possession of or use any completed or partially completed portion of the Work ("Prior Occupancy") at any time prior to Substantial Completion. Unless otherwise agreed in writing, Prior Occupancy shall not: (a) be deemed an acceptance of any portion of the Work; (b) accelerate the time for any payment to Design-Builder; (c) prejudice any rights of Owner provided by any insurance, bond, or the Contract Documents; (d) relieve

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Design-Builder of the risk of loss or any of the obligations established by the Contract Documents; (e) establish a date for termination or partial termination of the assessment of liquidated damages; or (f) constitute a waiver of claims. Notwithstanding the above, Owner shall be responsible for loss of or damage to the Work resulting from Prior Occupancy.

7.4 **Final Completion**

7.4.1 Conditions for Final Completion. Final Completion shall occur when all of the following have been satisfied:

- (1) the Work is fully and finally complete in accordance with the Contract Documents, including but not limited to: (i) the completion of all Punchlist items; (ii) all as-built information and other documents required by the Contract Documents have been received and accepted by Owner; and (iii) all special tools, spare parts, operating instructions and manuals, and certificates required by the Contract Documents and all other items to be provided by Design-Builder to Owner hereunder shall have been delivered to Owner free and clear of all liens; and
- (2) the Project includes LEED requirements, the Design-Builder shall complete all of the requirements, up to and including submittal of a proper application for the LEED Silver Certificate.

7.4.2 Issuance of Final Acceptance Certificate. When Design-Builder believes that Final Completion has occurred, Design-Builder shall issue a Final Acceptance Certificate. The process for Owner's review, acceptance and/or rejection of this certificate shall be in accordance with Section 7.3.3.2 above.

7.5 **Delay Damages**

7.5.1 Liquidated Damages for Late Substantial Completion. If Design-Builder fails to achieve Substantial Completion by the Guaranteed Completion Date for Substantial Completion, Design-Builder shall be liable for the payment of liquidated damages to Owner in the amount of \$2000.00 per day for each day of delay until Substantial Completion is achieved

7.5.2 Liquidated Damages Not Penalty. The Parties acknowledge, recognize and agree on the following:

- (1) that because of the unique nature of the Project, it is difficult or impossible to determine with precision the amount of damages that would or might be incurred by Owner as a result of Design-Builder's failure to achieve Substantial

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Completion on or before the Guaranteed Completion Date for Substantial Completion; and

(2) that any sums which would be payable under this Article 7 are in the nature of liquidated damages, and not a penalty, and are fair and reasonable and such payment represents a reasonable estimate of fair compensation for the losses that may reasonably be anticipated from such failure.

7.5.3 Actual Damages for Late Final Completion. After Substantial Completion is achieved, actual damages will be assessed for failure to achieve Final Completion by the Guaranteed Completion Date for Final Completion. Actual damages will be calculated on the basis of direct consultant, administrative, and other related costs attributable to the Project as a result of such failure. The average actual daily damages shall not exceed \$2,000 dollars per day for each day of delay until Final Completion is achieved.

7.5.4 Payment of Delay Damages. Delay Damages shall accrue daily, and Owner may offset these costs against any payment due Design-Builder.

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ARTICLE 8 CHANGES

8.1 Right to Make Changes. Without invalidating this Agreement, Owner may by written order, at any time and without notice to surety, make any change in, addition to, or deletion from the Work, including but not limited to:

1. Deleting any part of the Work,
2. Adding new Work,
3. Otherwise modifying the scope of the Work;
4. Otherwise revising the terms and conditions of the Contract Documents.
5. Altering facilities, equipment, materials, services, or sites provided by WSDOT.
6. Ordering the design-builder to speed up or delay the work.

No oral order, statement or conduct by Owner shall constitute a change under this Article or entitle Design-Builder to an adjustment to the Contract Sum or Guaranteed Completion Date(s).

8.2 Change Orders. A Change Order is a written instrument signed by Owner and Design-Builder, stating their agreement upon all of the following:

- (1) The scope of the change in the Work;
- (2) The amount of any adjustment to the Contract Sum; and
- (3) The extent of any adjustment to the Guaranteed Completion Date(s).

All changes in the Work authorized by applicable Change Order shall be performed under the applicable conditions of the Contract Documents. Owner and Design-Builder shall negotiate in good faith and as expeditiously as possible the appropriate adjustments for such changes. The Change Order shall constitute full compensation and settlement of all claims for time and for direct, indirect, and consequential costs, including costs of delays, inconvenience, disruption of schedule, or loss of efficiency or productivity, related to any Work either covered or affected by the Change Order, or related to the events giving rise to the Change Order.

8.3 Field Authorizations. A Field Authorization (FA) is a directive from Owner to Design-Builder to proceed with changed work when the processing time for an approved change order would impact the Project. The scope of work covered by an FA must be defined, with a maximum not-to-exceed cost agreed upon, and any estimated

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modification to the Project Schedule and Guaranteed Completion Date(s) determined. The method of final cost verification must be noted and supporting cost data must be submitted in accordance with the requirements of Article 9 below. Upon satisfactory submittal and approval of supporting cost data, the completed Field Authorization will be processed into a Change Order. No payment will be made to Design-Builder for Field Authorization work until that Field Authorization is converted to a Change Order.

8.4 Changes Proposed by Owner

8.4.1 Preparation of Proposal. If Owner contemplates making a change, Owner may request a written Change Order proposal from Design-Builder. Design-Builder shall submit the proposal within fourteen (14) days of Owner's request or within such other period as mutually agreed. The proposal shall be full compensation for implementing the proposed change in the Work, including any adjustment in the Contract Sum or Guaranteed Completion Date(s), and including compensation for proposal preparation costs, all delays in connection with such change in the Work and for any expense or inconvenience, disruption of schedule, or loss of efficiency or productivity occasioned by the change.

8.4.2 Review and Response to Proposal. Owner shall review Design-Builder's proposal with Design-Builder. If the Parties reach agreement on the terms of the change and Owner elects to proceed with the change, then a Change Order shall be executed by the Parties. If the Parties are unable to reach agreement on the terms of the change, and Owner wants to proceed with the change, it shall have the right to direct in writing Design-Builder to perform the change.

8.4.3 Owner's Rights to Undertake or Reject Proposed Changes. Owner shall have the right, at any time and in its sole discretion: (a) to direct Design-Builder to proceed immediately with the proposed change under a Field Authorization, pending agreement by the Parties on the terms of a Change Order; or (b) not to undertake any contemplated change, provided, however, that in such event, if Design-Builder was required to prepare a design as part of the proposed change, then Design-Builder shall be paid the reasonable costs it has incurred in preparing such design.

8.5 Changes of Law. If, after the date of this Agreement and prior to Substantial Completion, there shall be any Change of Law that materially increases Design-Builder's cost to perform the Work or adversely impacts Design-Builder's ability to achieve the Guaranteed Completion Date(s), then Design-Builder shall have the right to submit a request for an equitable adjustment in accordance with Section 8.6 below.

8.6 Design-Builder's Requests for Equitable Adjustments. If Design-Builder believes that any event arising out of or relating to the Work causes an increase in its cost of, or time required for the performance of, any part of the Work, and that under the terms of the Contract Documents such event entitles Design-Builder to an adjustment to

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the Contract Sum or the Guaranteed Completion Date(s), then Design-Builder shall comply with the following processes.

8.6.1 Request for Equitable Adjustment. Design-Builder shall provide Owner with written notice, in accordance with Section 8.6.2 below, of any event that Design-Builder believes entitles it to an equitable adjustment in the Contract Sum and/or Guaranteed Completion Date(s) within fourteen (14) days of the occurrence of the event giving rise to the request. For purposes of this part, “occurrence” means when Design-Builder knew, or in its diligent prosecution of the Work should have known, of the event giving rise to the request. If Design-Builder believes it is entitled to an adjustment in the Contract Sum, Design-Builder shall immediately notify Owner and begin to keep and maintain complete, accurate, and specific daily records. Design-Builder shall give Owner access to any such records and, if requested shall promptly furnish copies of such records to Owner.

8.6.2 Contents of the Initial Notice. Design-Builder shall not be entitled to any adjustment in the Contract Sum for any occurrence of events or costs that occurred more than fourteen (14) days before Design-Builder’s written notice to Owner. The written notice shall set forth, at a minimum, a description of: (a) the event giving rise to the request for an equitable adjustment in the Contract Sum; (b) the nature of the impacts to Design-Builder and Subcontractors of any tier; and (c) to the extent possible the amount of the adjustment in Contract Sum requested. Failure to properly give such written notice shall, to the extent Owner’s interests are prejudiced, constitute a waiver of Design-Builder’s right to an equitable adjustment.

8.6.3 Contents of the Supplemental Notice. Within thirty (30) days of the occurrence of the event giving rise to the request, unless Owner agrees in writing to allow an additional period of time to ascertain more accurate data, Design-Builder shall supplement the written notice provided in accordance with Section 8.6.2 above with additional supporting data. Such additional data shall include, at a minimum: (a) the amount of compensation requested, itemized in accordance with the procedure set forth herein; (b) specific facts, circumstances, and analysis that confirms not only that Design-Builder suffered the damages claimed, but that the damages claimed were actually a result of the act, event, or condition complained of and that the Contract Documents provide entitlement to an equitable adjustment to Design-Builder for such act, event, or condition; and (c) documentation sufficiently detailed to permit an informed analysis of the request by Owner. When the request relates to a delay or change in the Guaranteed Completion Date(s), Design-Builder shall also be obligated to comply with all of the requirements of Article 10 hereof. Failure to provide such additional information and documentation within the time allowed or within the format required shall, to the extent Owner’s interests are prejudiced, constitute a waiver of Design-Builder’s right to an equitable adjustment.

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8.6.4 Combined Requests for Price and Time Adjustments. Any requests by Design-Builder for an equitable adjustment in the Contract Sum and in the Guaranteed Completion Date(s) that arise out of the same event(s) shall be submitted together.

8.6.5 Fault or Negligence of Design-Builder. Design-Builder shall have no right to seek an equitable adjustment to the Contract Sum or Guaranteed Completion Date(s) if the basis for the adjustment arises out of or relates to events caused in whole or in part by the fault or negligence of Design-Builder, or anyone for whose acts Design-Builder is responsible.

8.7 Computation of Adjustments

8.7.1 Contract Sum. The computation of the value of any Change Order, Design-Builder request for equitable adjustment under Section 8.6, or any other adjustment to the Contract Sum, shall be determined in accordance with Article 9 hereof.

8.7.2 Guaranteed Completion Date(s). The computation of any adjustments to the Guaranteed Completion Date(s) as the result of any Change Order, or of any Design-Builder request for equitable adjustment under Section 8.6 above, or any other event or reason, shall be as set forth in Article 10 hereof.

8.8 Duty to Proceed. No dispute under the Contract Documents, including but not limited to those relating to the entitlement, cost, or time associated with a contemplated change or Design-Builder request for equitable adjustment under Section 8.6 above, shall interfere with the progress of the Work and Owner shall continue to satisfy its payment obligations to Design-Builder pending the final resolution of any dispute or disagreement. Design-Builder shall have the duty to diligently proceed with the Work in accordance with Owner's instructions despite any dispute or claim, including but not limited to those events where the Parties are in disagreement as to whether instructions from Owner constitute a valid claim or change to the Contract Documents and justify adjustments to the Contract Sum or Guaranteed Completion Date(s). Design-Builder's sole recourse in the event of a dispute will be to pursue its rights under Article 11.

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ARTICLE 9 ADJUSTMENTS TO THE CONTRACT SUM

9.1 Computation Methods. The computation of the value of any Change Order, Design-Builder request for equitable adjustment under Section 8.6 above, or any other adjustment to the Contract Sum shall be determined by one of the following methods:

- (1) On the basis of a fixed price as determined in Section 9.2 below.
- (2) By application of unit prices to the quantities of the items involved as determined in Section 9.3 below.
- (3) On the basis of time and material as determined in Section 9.4 below.

When Owner has requested Design-Builder to submit a Change Order proposal pursuant to Section 8.4 above, Owner may direct Design-Builder as to which method to use when submitting its proposal. For all other adjustments, the value of the change or of the request for adjustment shall be made on the basis of the fixed price method.

9.2 Fixed Price. The following procedures shall apply for the fixed price method of pricing adjustments:

- (1) Design-Builder's Change Order proposal, or request for adjustment in the Contract Sum, shall be accompanied by a complete itemization of the costs, including labor, material, subcontractor costs, and overhead and profit. The costs shall be itemized in the manner set forth below, and shall be submitted on breakdown sheets in a form approved by Owner.
- (2) All costs shall be calculated based upon appropriate industry standard methods of calculating labor, material quantities, and equipment costs.
- (3) If any of Design-Builder's pricing assumptions are contingent upon anticipated actions of Owner, Design-Builder shall clearly state them in the proposal or request for an equitable adjustment.
- (4) The cost of any additive or deductive changes in the Work shall be calculated as set forth below, except that overhead and profit shall not be included on deductive changes in the Work. Where a change in the Work involves additive and deductive work by the same Design-Builder or Subcontractor, small tools, overhead, profit, bond and insurance markups will apply to the net difference.
- (5) If the total cost of the change in the Work or request for equitable adjustment does not exceed \$1,000, Design-Builder shall not be required to

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submit a breakdown if the description of the change in the Work or request for equitable adjustment is sufficiently definitive for Owner to determine fair value.

(6) If the total cost of the change in the Work or request for equitable adjustment is between \$1,000 and \$2,500, Design-Builder may submit a breakdown in the following level of detail if the description of the change in the Work or if the request for equitable adjustment is sufficiently definitive to permit Owner to determine fair value:

- (a) lump sum labor;
- (b) lump sum material;
- (c) lump sum equipment usage;
- (d) overhead and profit as set forth below; and
- (e) insurance and bond costs as set forth below.

(7) Any request for adjustment of Contract Sum based upon the fixed price method shall include only the following items:

(a) Craft labor costs: These are the labor costs determined by multiplying the estimated or actual additional number of craft hours needed to perform the change in the Work by the hourly labor costs. Craft hours should cover direct labor, as well as indirect labor due to trade inefficiencies. The hourly costs shall be based on the following:

(1) Basic wages and benefits: Hourly rates and benefits as stated on the Department of Labor and Industries approved "statement of intent to pay prevailing wages." Direct supervision shall be a reasonable percentage not to exceed 15% of the cost of direct labor. No supervision markup shall be allowed for a working supervisor's hours.

(2) Worker's insurance: Direct contributions to the state of Washington for industrial insurance; medical aid; and supplemental pension, by the class and rates established by the Department of Labor and Industries.

(3) Federal insurance: Direct contributions required by the Federal Insurance Compensation Act; Federal Unemployment Tax Act; and the State Unemployment Compensation Act.

(4) Travel allowance: Travel allowance and/or subsistence, if applicable, not exceeding those allowances established by regional labor union agreements, which are itemized and identified separately.

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(5) Safety: Cost incurred due to the Washington Industrial Safety and Health Act, which shall be a reasonable percentage not to exceed 2% of the sum of the amounts calculated in (1), (2), and (3) above.

(b) Material costs: This is an itemization of the quantity and cost of materials needed to perform the change in the Work. Material costs shall be developed first from actual known costs, second from supplier quotations or if these are not available, from standard industry pricing guides. Material costs shall consider all available discounts. Freight costs, express charges, or special delivery charges, shall be itemized.

(c) Equipment costs: This is an itemization of the type of equipment and the estimated or actual length of time the construction equipment appropriate for the Work is or will be used on the change in the Work. Costs will be allowed for construction equipment only if used solely for the changed Work, or for additional rental costs actually incurred by Design-Builder. Equipment charges shall be computed on the basis of actual invoice costs or if owned, from the current edition of one of the following sources:

(1) Associated General Contractors - Washington State Department of Transportation (AGC WSDOT) Equipment Rental Agreement; 1987 edition.

(2) The state of Washington Utilities and Transportation Commission for trucks used on highways.

(3) The National Electrical Contractors Association for equipment used on electrical work.

(4) The Mechanical Contractors Association of America for equipment used on mechanical work.

(5) The Data Quest Rental Rate (Blue Book) shall be used as a basis for establishing rental rates of equipment not listed in the above sources. The maximum rate for standby equipment shall not exceed that shown in the AGC WSDOT Equipment Rental Agreement, 1987 edition.

(d) Allowance for small tools, expendables & consumable supplies: Small tools consist of tools which cost \$250 or less and are normally furnished by the performing Design-Builder. The maximum rate for small tools shall not exceed the following:

(1) For Design-Builder, 3% of direct labor costs.

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- (2) For Subcontractors, 5% of direct labor costs.

Expendables and consumable supplies directly associated with the change in Work must be itemized.

(e) Subcontractor costs: This is defined as payments Design-Builder makes to Subcontractors for changed Work performed by Subcontractors of any tier. The Subcontractors' cost of Work shall be calculated and itemized in the same manner as prescribed herein for Design-Builder, provided, however, that for Design Consultants, the rates for labor shall be as set forth in the rate sheet attached hereto as RFP Section III-2.D.

(f) Allowance for overhead: This is defined as costs of any kind attributable to direct and indirect delay, acceleration, or impact, added to the total cost to Owner of any change in the Contract Sum but not to the cost of any change in the Guaranteed Completion Date(s) for which Design-Builder has been compensated pursuant to the conditions set forth in Section 10.6 below. This allowance shall compensate Design-Builder for all non-craft labor, temporary construction facilities, field engineering, schedule updating, as-built drawings, home office cost, B&O taxes, office engineering, estimating costs, additional overhead because of extended time, and any other cost incidental to the change in the Work. It shall be strictly limited in all cases to a reasonable amount, mutually acceptable, or if none can be agreed upon to an amount not to exceed the rates below:

(1) For Design-Builder, for any Work actually performed by Design-Builder's own forces, 12% of the first \$50,000 of the cost, and 4% of the remaining cost, if any.

(2) For each Subcontractor (including lower tier Subcontractors), for any Work actually performed by its own forces, 12% of the first \$50,000 of the cost, and 4% of the remaining cost, if any.

(3) For Design-Builder, for any Work performed by its Subcontractor(s), 4% of the first \$50,000 of the amount due each Subcontractor, and 2% of the remaining amount if any.

(4) For each Subcontractor, for any Work performed by its Subcontractor(s) of any lower tier, 4% of the first \$50,000 of the amount due the sub-Subcontractor, and 2% of the remaining amount if any.

(5) The cost to which overhead is to be applied shall be determined in accordance with subparagraphs (a) through (e) above.

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(g) Allowance for profit: This is an amount to be added to the cost of any change in Contract Sum, but not to the cost of change in the Guaranteed Completion Date(s) for which Design-Builder has been compensated pursuant to the conditions set forth in Section 10.6 below. It shall be limited to a reasonable amount, mutually acceptable, or if none can be agreed upon, to an amount not to exceed the rates below:

(1) For Design-Builder or Subcontractor of any tier for work performed by their forces, 6% of the cost developed in accordance with Section 9.2(7)(a) through (e) above.

(2) For Design-Builder or Subcontractor of any tier for work performed by a Subcontractor of a lower tier, 4% of the Subcontractor cost developed in accordance with Sections 9.2(7)(a) through (h).

(h) Cost of change in insurance or bond premium: This is defined as:

(1) Design-Builder's liability insurance: The cost of any changes in Design-Builder's liability insurance arising directly from execution of the Change Order; and

(2) Performance and payment bond: The cost of the additional premium for Design-Builder's bond arising directly from the changed Work.

(3) The costs of any change in insurance or bond premium shall be added after overhead and allowance for profit are calculated in accordance with Subparagraphs (f) and (g) above.

9.3 Unit Prices

9.3.1 Owner's Authorization. Whenever Owner authorizes Design-Builder to perform Work on a unit-price basis, Owner's authorization shall clearly state:

- (1) Scope of work to be performed;
- (2) Type of reimbursement including pre-agreed rates for material quantities;
and
- (3) Cost limit of reimbursement.

9.3.2 Design-Builder's Responsibility. Design-Builder shall:

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- (1) Cooperate with Owner and assist in monitoring the Work being performed. As requested by Owner, Design-Builder shall identify workers assigned to the Change Order Work and areas in which they are working;
- (2) Leave access as appropriate for quantity measurement; and
- (3) Not exceed any cost limit(s) without Owner's prior written approval.

9.3.3 Submission of Costs. Design-Builder shall submit costs in accordance with Section 9.2 above and satisfy the following requirements:

- (1) Unit prices shall include reimbursement for all direct and indirect costs of the Work, including overhead and profit, and bond and insurance costs; and
- (2) Quantities must be supported by field measurement statements signed by Owner.

9.4 Time-and-Material Prices

9.4.1 Owner Authorization. Whenever Owner authorizes Design-Builder to perform Work on a time-and-material basis, Owner's authorization shall clearly state:

- (1) Scope of Work to be performed;
- (2) Type of reimbursement including pre-agreed rates, if any, for material quantities or labor; and
- (3) Cost limit of reimbursement.

9.4.2 Design-Builder's Responsibility. Design-Builder shall:

- (1) Cooperate with Owner and assist in monitoring the Work being performed. As requested by Owner, identify workers assigned to the Change Order Work and areas in which they are working;
- (2) Identify on daily time sheets all labor performed in accordance with this authorization. Submit copies of daily time sheets within 2 working days for Owner's review;
- (3) Leave access as appropriate for quantity measurement;
- (4) Perform all Work in accordance with this Section 9.4 as efficiently as possible; and

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- (5) Not exceed any cost limit(s) without Owner's prior written approval.

9.4.3 Submission of Costs. Design-Builder shall submit costs in accordance with Section 9.2 and additional verification supported by:

- (1) Labor detailed on daily time sheets; and
- (2) Invoices for material.

9.5 Compensation for Adjustments to the Guaranteed Completion Date(s). Design-Builder's rights to seek compensation for the cost of an adjustment to the Guaranteed Completion Date(s), and the amount of such compensation, are set forth in Section 10.6 below.

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ARTICLE 10 ADJUSTMENTS TO THE GUARANTEED COMPLETION DATE(S)

10.1 Events Constituting Excusable Delay. The following events shall constitute Excusable Delays, provided, however, that before any event is deemed to be an Excusable Delay, Design-Builder shall be required to meet the conditions set forth in Section 10.3 below for each such event:

- (1) Owner's suspension of all or part of the Work pursuant to Article 17 hereof;
- (2) Any failure of Owner to act within the times expressly provided in this Agreement;
- (3) Any unreasonable delay caused by the acts or omissions of Owner or persons acting on Owner's behalf;
- (4) Owner changes pursuant to Article 8 hereof;
- (5) Hazardous Materials encountered by Design-Builder under Section 2.2 hereof, subject to the express conditions of such section;
- (6) Earthquakes and floods;
- (7) Unusually severe weather conditions which could not have been reasonably anticipated;
- (8) Public disorders, insurrection, rebellion, epidemic, terrorism, acts of war;
- (9) Fire or other casualty for which Design-Builder is not responsible;
- (10) Actions of Governmental Units enjoining the Project from proceeding or in unreasonably delaying the issuance of a Government Approval;
- (11) Changes in Laws; and
- (12) Labor strikes that affect a specific trade on a national or regional level and such strike was not caused by the acts or omissions of Design-Builder or Subcontractors.
- (13) Differing Site Conditions as set forth in Section 3.4.3 hereof.
- (14) Supplier delay of sole source products, provided the delay is completely outside the control of the Design-builder.

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10.2 Events Not Considered As Excusable Delay. The following events shall not constitute Excusable Delays, and Design-Builder assumes all risk of such events:

- (1) Actions or inactions of Government Units except as provided in Section 10.1(10) above;
- (2) Delays in obtaining or delivery of goods or services from Design-Builder or any Subcontractor unless such delay is caused by an Excusable Delay encountered by the Subcontractor;
- (3) Economic conditions, including without limitation labor shortages, inexperienced or unqualified labor, material shortages, or increases in the prices of labor or material.
- (4) Delays of common carriers;
- (5) Delays or disruptions arising out of or related to security clearances at the Site unless such delays or disruptions are not due to the actions or omissions of the Design-Builder or its subcontractors;
- (6) Adverse weather conditions, except as provided in Sections 10.1(6) and 10.1(7) above; and
- (7) Any other delay not specifically enumerated in Section 10.1 above.

10.3 Adjustment of Guaranteed Completion Date(s). The Guaranteed Completion Date(s) shall be adjusted by the amount of time Design-Builder is actually delayed by an Excusable Delay in the performance of the Work, provided that: (a) notice is given by Design-Builder as hereinafter provided; (b) the delay impacts the critical path (as reflected on the most recent monthly Project Schedule update) and is outside the reasonable control of Design-Builder; (c) Design-Builder's performance would not have been concurrently delayed or interrupted by any event other than those identified in Section 10.1 above; and (d) Design-Builder, in view of all the circumstances, has exercised reasonable efforts to avoid the delay and did not cause the delay. Delays of Subcontractors shall be deemed to be within the reasonable control of Design-Builder, unless such delays are themselves excusable in accordance with the provisions of this Agreement.

10.4 Notice and Supporting Documentation. Design-Builder shall not be entitled to an adjustment in the Guaranteed Completion Date(s) for any events that occurred more than fourteen (14) days before Design-Builder's written notice to Owner. The written notice shall set forth, at a minimum, a description of: (a) the event giving rise to the

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request for an equitable adjustment in the Guaranteed Completion Date(s); (b) the nature of the impacts to Design-Builder and its Subcontractors of any tier, if any; (c) the impact to the critical path; and (d) to the extent possible the amount of the adjustment in the Guaranteed Completion Date(s) requested. Failure to properly give such written notice shall, to the extent Owner's interests are prejudiced, constitute a waiver of Design-Builder's right to an equitable adjustment.

10.5 Supplementation. Within thirty (30) days of the occurrence of the event giving rise to the request for an extension to the Guaranteed Completion Date(s), unless Owner agrees in writing to allow an additional period of time to ascertain more accurate data, Design-Builder shall supplement the written notice provided in accordance with Section 10.4 above with additional supporting data. Such additional data shall include, at a minimum: (a) the amount of delay claimed, itemized in accordance with the procedure set forth herein; (b) specific facts, circumstances, and analysis that confirms not only that Design-Builder suffered the delay claimed, but that the delay claimed was actually a result of the act, event, or condition complained of, and that the Contract Documents provide entitlement to an equitable adjustment in the Guaranteed Completion Date(s) for such act, event, or condition; and (c) supporting documentation sufficiently detailed to permit an informed analysis of the request by Owner. Design-Builder is further required to submit to Owner, as part of these supplemental materials, an acceleration schedule on a fragnet basis to demonstrate how such delay can be eliminated. Failure to provide such additional information and documentation within the time allowed or within the format required shall, to the extent Owner's interests are prejudiced, constitute a waiver of Design-Builder's right to an equitable adjustment.

10.6 Adjustment of Contract Sum for Excusable Delays

10.6.1 Compensable and Non-Compensable Excusable Delays. If Design-Builder encounters an Excusable Delay Event under Sections 10.1 (1), (2), (3), (4), (5), (10), (11), or (13), for which it is entitled to a time extension pursuant to Section 10.3 hereof, Design-Builder shall also be entitled to an adjustment of the Contract Sum. Except as provided in the preceding sentence, Design-Builder expressly waives any and all monetary relief for any delay to the Work, whether or not such delay is an Excusable Delay, and specifically agrees that its sole and exclusive remedy for Excusable Delays, including any loss of productivity or impact costs associated with such Excusable Delays, will be an adjustment to the Guaranteed Completion Date(s).

10.6.2 Adjustments to Contract Sum. The daily cost of any change in the Guaranteed Completion Date(s) shall be limited to the items below, less funds that may have been paid pursuant to a change in the Contract Sum pursuant to Article 9 that contributed to this change in Guaranteed Completion Date(s):

- (1) Cost of nonproductive field supervision or labor extended because of the delay;

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- (2) Cost of weekly meetings or similar indirect activities extended because of the delay;
- (3) Cost of temporary facilities or equipment rental extended because of the delay;
- (4) Cost of insurance extended because of the delay;
- (5) General and administrative overhead in an amount to be agreed upon, but not to exceed 3% of Contract Sum divided by the number of days between the Notice to Proceed and the actual date of Substantial Completion, multiplied by the number of days between the actual date of Substantial Completion and the Guaranteed Completion Date for Substantial Completion.

10.7 Disputes; Burden of Proof. In case of a dispute regarding the application of the provisions of this Article 10, including any dispute as to whether an Excusable Delay has occurred, either Party shall have the right to submit the dispute for resolution pursuant to Article 11 hereof, and Design-Builder shall bear the burden of proof in establishing its entitlement to adjustments to the Guaranteed Completion Date(s) and its entitlement to relief under this Article 10.

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ARTICLE 11 CLAIMS AND DISPUTE RESOLUTION

11.1 Final Offer. If the Parties fail to reach agreement on the terms of any change in the Work, including any adjustment in the Contract Sum or Guaranteed Completion Date(s), Design-Builder may at any time in writing request a final offer from Owner. Owner shall provide its written response within twenty (20) days of Design-Builder's request. Owner may also provide Design-Builder with a final offer at any time. If Design-Builder rejects Owner's final offer, or the parties are otherwise unable to reach agreement, the parties shall comply with the disputes resolution process set forth in Section 11.2. Should the parties still be unable to resolve the dispute through use of the Disputes Review Board, the Design-Builder's only remedy shall be to file a Claim as provided in Section 11.3.

11.2 Dispute Review Board Guide Specification

1. GENERAL

- A. This Section specifies requirements for establishing and operating a Dispute Review Board (DRB) to assist in and facilitate the timely and impartial resolution of disputes.
- B. If the Design-Builder does not accept the Owner's final offer issued pursuant to Section 11.1, or the parties are otherwise unable to reach agreement, either party may refer the dispute to the DRB. Unless noted otherwise, disputes shall be referred to the DRB and shall be subject to the DRB process herein described as a **CONDITION PRECEDENT** to initiating further disputes resolution procedures under the Contract. Nevertheless, if the parties mutually agree, a dispute may be defaulted to Section 11.3 or mutually agreed dispute resolution process, bypassing the DRB process.
- C. In spite of any protest, the Design-Builder shall proceed promptly with the work as the Owner orders.
- D. A Three-Party Agreement (Agreement) is appended hereto as in RFP Section II-6.B.
- E. The provisions of the Agreement take precedence over the language herein.
- F. The Owner and the Design-Builder acknowledge that DRB reports shall not be binding on either party, and shall be admissible in subsequent dispute resolution proceedings.

2. DISPUTES ELIGIBLE FOR CONSIDERATION BY THE DRB

Except as explicitly otherwise provided, all disputes that are actionable under the provisions of the Contract between the Owner and the Design-Builder may be referred to the DRB.

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3. DRB QUALIFICATIONS

- A. Board members shall be experienced in the interpretation of contract documents and the resolution of construction disputes. It is desirable that Board members be experienced in the type of construction to be performed.
- B. The following definitions apply for the purpose of setting forth experience and disclosure requirements.
 - 1. Party directly involved: The Owner or the Design-Builder of this Project.
 - 2. Design-Builder includes all joint-venture partners individually.
 - 3. Party indirectly involved: A subcontractor, supplier, designer, architect, engineer, or other professional service firm, or consultant on this Project.
 - 4. Financial ties: any ownership interest, loans, receivables or payables.
- C. Prohibitions:
 - 1. No member shall have financial ties to any party directly or indirectly involved in the Contract, or a financial interest in the Contract, except for payment for services on the DRB.
 - 2. Except for previous fee-based consulting services and service as a DRB member on other projects, no member shall have been employed by any party directly involved in the Contract.
 - 3. Except for service as a DRB member on other projects, while serving as a Board member on this Project, no member shall be employed by or retained as a fee-based consultant by any party:
 - a. Directly involved in the Contract, or
 - b. Indirectly involved in the Contract, unless specific written permission from both the Owner and Design-Builder is obtained.
 - 4. No member shall currently have or have had a close professional or personal relationship with a key member of any party directly or indirectly involved in the Contract that may suggest bias in the judgment of the Owner or the Design-Builder.
 - 5. No member shall have had substantial prior involvement in the Project, in the judgment of the Owner and the Design-Builder.
 - 6. While serving as a Board member on this Project, no member shall participate in any discussion contemplating the creation of an agreement or making an agreement with any party directly or indirectly involved in the Contract regarding employment, fee based consulting

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services, or any other business arrangement after the Contract is completed.

D. The Owner and the Design-Builder shall provide to the DRB nominees a list of joint-venture partners, subcontractors, suppliers, designers, architects, engineers, professional service firms, and consultants involved, or likely to be involved, in the Project. DRB nominees shall provide the following, pursuant to the above requirements and in addition to the nominee's full name and contact information, to both parties:

1. Resume showing experience qualifying the person as a DRB member and past DRB participation, if any. List each DRB assignment separately, indicating the name of project, name of owner, name of contractor, party by whom selected if applicable, names of the other Board members and the number of disputes heard.
2. Disclosure statement describing past, present, and anticipated relationships, including indirect relationships through the nominee's full-time employer, if any, to the Project, and with all parties directly and indirectly involved in the Contract. Disclose close professional or personal relationships with key members of all these parties.

4. ESTABLISHMENT OF THE DRB

The Disputes Review Board will consist of one member selected by the Owner and approved by the Design-Builder, and one member selected by the Design-Builder and approved by the Owner. The first two members will mutually select and agree on the third member. The third member will act as Chairman for all Board activities.

The goal in selecting the third member is to complement the construction experience of the first two members, to provide leadership for the Board's activities, and to provide expertise in the area of administering alternative contract resolution proceedings. It is imperative that Board members not show or be perceived as showing partiality to either the Design-Builder or the Owner. A Board member shall not have any conflict of interest, which could affect their ability to act in a disinterested and unbiased manner.

Within ten (10) days after issuance of the Notice To Proceed, the Owner and the Design-Builder shall notify each other of their selection for Board member. Within ten (10) days of receiving the notice of selection of a Board member, the Owner and the Design-Builder shall each review the accompanying resume and disclosure statement, make such inquiries as each deems necessary and notify the other party in writing as to whether or not the person selected is acceptable. Failure to give this notice within the ten (10) days allowed shall be construed to be acceptance.

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If a person selected is not acceptable to the other party, the party who selected that person shall within five (5) days select another person and provide to the other party to the Contract a notification accompanied by a resume and disclosure statement.

Once the Design-Builder and the Owner have agreed upon the first two members of the Board they shall immediately notify those members of their approval. Within one week of this notification, the first two members of the Board shall select the third member and give written notice to the Design-Builder and the Owner accompanied by that person's resume and disclosure statement.

Within ten (10) days of receiving the notice of selection of a third member of the Board, the Owner and the Design-Builder shall review the accompanying resume and disclosure statement, make such inquiries as each deems necessary and notify the first two members in writing as to whether or not the person selected is acceptable. If a person selected is not acceptable to the Design-Builder or the Owner the first two members of the Board shall immediately select another person and provide notification accompanied by a resume and disclosure statement. Failure to give this notice within the ten (10) days allowed shall be construed to be acceptance.

Immediately after agreement is reached on all members of the Board, the Design-Builder, the Owner and the members of the Board shall proceed with execution of a Three Party Agreement as provided. The Third Party Agreement shall be executed no later than the first DRB meeting.

5. DRB MEETINGS

- A. The DRB will visit the Project site and meet with representatives of the parties at periodic intervals as agreed to by the DRB, the Owner and the Design-Builder and at other times requested by the parties.
- B. Each meeting shall consist of an informal discussion followed by a field observation of the work in progress. The discussion and field observation shall be attended by personnel of the Owner and the Design-Builder.

6. DISPUTE RESOLUTION PROCESS

- A. Prior Good-Faith Negotiation:
The Owner and the Design-Builder shall enter into good-faith negotiations pursuant to Article 8 and Article 10 before referring a dispute to the DRB. Such good-faith negotiations may, however, involve the solicitation and rendering of a DRB Advisory Opinion as described herein.
- B. Dispute Referral:

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1. A dispute may be referred to the DRB by either the Owner or the Design-Builder. The dispute referral shall be made in writing to the DRB Chair with a copy concurrently provided to the other Board members and the other party.
 2. The dispute referral shall concisely define the nature and specifics of the dispute that are to be considered by the DRB and the scope of the recommendation requested.
 3. The DRB Chair shall confer with the parties to establish a due date for delivering pre-hearing submittals, and a date, time, and location for convening the DRB hearing. Hearings shall be convened between 30 days and 60 days after the date that the dispute was referred to the DRB, unless the parties agree to a shorter or longer period.
- C. Pre-Hearing Submittal:
1. The Owner and the Design-Builder shall each prepare a pre-hearing submittal and transmit it to all three members of the DRB and the other party. The pre-hearing submittal, comprising a position paper with such backup data as is referenced in the position paper, shall be tabbed, indexed, and the pages consecutively numbered.
 2. Both position papers shall, at a minimum, contain the following:
 - a. A joint statement of the dispute, and the scope of the desired report, placed in a prominent location. The language of this joint statement shall summarize in a few sentences the nature of the dispute. If the parties are unable to agree on the wording of the joint statement of dispute, each party's position paper shall contain both statements, and identify the party authoring each statement.
 - b. The basis and justification for the party's position, with reference to contract language and other supporting documents for each element of the dispute. In order to minimize duplication and repetitiveness, the parties may identify a common set of documents that will be referred to by both parties and submit them in a separate package.
 - c. When the scope of the hearing includes quantum, the referring party shall include full cost details and a schedule impact analysis, calculated in accordance with methods set forth in the contract. This requirement does not apply if the report is to be made for entitlement alone or for entitlement with guidelines for quantum.

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3. The number of copies, distribution requirements, and time for submittal will be established by the DRB and communicated to the parties by the Chair.

D. DRB Hearings:

1. The Owner shall arrange for or provide hearing facilities at or near the site.
2. Attendance
 - a. The Owner and Design-Builder shall both limit representation at the hearing to a minimum. Except as provided below, this includes personnel directly involved in the dispute and participants in the good-faith negotiations that were conducted prior to submittal to the DRB.
 - b. Prior to the date established for the hearing, each party shall provide a list of proposed attendees to the DRB and to the other party. In the event of any disagreement, the DRB shall make the final determination as to who attends the hearing.
 - c. Attorneys representing the parties are permitted to attend dispute hearings, provided that prior written notice is given to the other party. Unless otherwise approved in writing by both parties, attorneys shall not participate in the hearing.
 - d. At DRB hearings regarding claims by a subcontractor, including pass-through claims by a lower tier subcontractor or supplier, against the Design-Builder which are actionable by the Design-Builder against the Owner, the Design-Builder shall require and ensure that each subcontractor involved in the dispute have present an authorized representative with actual knowledge of the facts underlying the subcontractor claims.
3. The conduct of the hearing shall be established by the DRB according to their operating procedures and generally consistent with the following guidelines:
 - a. The party who referred the dispute to the DRB shall present its position first, followed by the other party.
 - b. Both parties shall be allowed successive rebuttals, assuring a full and adequate opportunity to present their position, and to rebut the opposing party's position, until, in the DRB's opinion, all aspects of the dispute have been fully and fairly covered.
 - c. The DRB shall be fully prepared to, and may at any time, ask questions, request clarifications, or ask for additional data and/or job records.

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- d. Either party may request that the DRB direct a question to, or request a clarification from the other party. The DRB shall determine at what point in the proceedings such requests may be made and if they will be granted. In general, the DRB will not allow one party to be questioned directly by the other party.
 - e. In difficult or complex cases, additional hearings may be necessary to facilitate full consideration and understanding of the dispute.
 - f. The DRB, in its discretion, may allow introduction of arguments, exhibits, handouts, or documentary evidence that have not been previously submitted to the other party and included in that party's pre-hearing position paper. In such cases the other party will be granted time to review and prepare a rebuttal to the new material.
- E. Failure to Prepare a Pre-Hearing Submittal or Attend a DRB Hearing:
 - 1. In the event that either party fails to deliver a pre-hearing submittal by the date established by the DRB, the DRB shall, at its discretion, determine whether the hearing shall proceed as originally scheduled, or whether additional time shall be provided and a new date established. On the final date and time established for the hearing, the DRB shall proceed with the hearing utilizing the information that has been submitted.
 - 2. In the event that some or all of the representatives of either party fails to appear at the appointed time of a DRB hearing, the DRB shall proceed with the hearing. The hearing shall take place as if all party representatives were in attendance, and the DRB shall consider all evidence brought before it and hear testimony from those party representatives that are present.
- F. Use of Outside Experts:
 - 1. By the Owner or the Design-Builder:
 - a. A party intending to offer an outside expert's analysis at the hearing shall disclose such intention in writing to the other party and to the DRB no less than 30 days prior to the due date for delivering the pre-hearing submittal. The expert's name and a general statement of the area of the dispute that will be covered by his or her testimony shall be included in the disclosure.
 - b. Upon receipt of the above disclosure, the other party shall have the opportunity to secure the services of an outside expert to address or respond to those issues that may be raised by the other party's outside expert. The disclosure requirements shall be the

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same as that specified above, except the time requirement is 10 days.

- c. The cost for securing outside expert services shall be borne by the party securing such services.

2. By the DRB:

- a. Prior to arranging for outside experts, the DRB shall obtain prior approval from the Owner and the Design-Builder by providing:
 - (1) A statement explaining why the expert assistance is needed.
 - (2) An estimate of the cost of the expert assistance.
 - (3) A disclosure statement, in accordance with the requirements Section 11.2 subparagraph 3.D.2 herein, using the criteria established in Section 11.2 subparagraph 3.C herein.
 - (4) A confidentiality statement, consistent with the DRB's Agreement, executed by the proposed expert.
- b. The DRB Chair shall include the cost of the outside expert in his or her regular invoice, and provide a copy of the invoice. Invoices shall be in accordance with the requirements for Board member invoices.
- c. The Design-Builder and the Owner shall equally bear the cost of the services of the outside expert employed by the DRB.

G. DRB Report:

- 1. The DRB's recommendations for resolution of a dispute will be formalized in a written report with format as determined by the DRB and signed by all Board members. The report should consist of a concise description of the dispute, short statements of each party's position, findings as to the facts of the dispute, discussion and rationale for the recommendation(s), and the recommendation(s). The report shall be submitted concurrently to the parties as soon as possible after completion of the hearing as agreed by all parties.
- 2. If the DRB cannot arrive at a unanimous report, the dissenting Board member shall prepare minority findings and recommendation(s), which, together with the majority findings and recommendation(s) shall comprise the DRB report. The report shall identify the issues of disagreement, along with the reasons for disagreement.
- 3. Clarification:

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- a. Either party may request clarification of a report. Within a reasonable period of time, the DRB shall provide written clarification to both parties.
 - b. Requests for clarification shall be submitted in writing simultaneously to the DRB and to the other party.
 - c. Only one request for clarification per dispute from each party will be allowed.
- 4. Reconsideration:
 - a. Either party may request reconsideration of a report when new information is obtained or developed that was not known at the time of the hearing, or when, in the DRB's opinion, they misunderstood or failed to consider pertinent facts of the dispute. Within a reasonable period of time, the DRB shall provide written reconsideration to both parties.
 - b. Requests for reconsideration shall be submitted in writing simultaneously to the DRB and to the other party.
 - c. The Board will not entertain requests for reconsideration that amount to a renewal of prior argument or additional argument based on facts available at the time of the hearing.
 - d. Only one request for reconsideration per dispute from each party will be allowed.
- 5. Acceptance:
 - a. The Owner and the Design-Builder shall submit their written acceptance or rejection of the report concurrently to the other party and to the DRB within 20 days of receipt of the report or following receipt of responses to requests for clarification or reconsideration.
 - b. Failure by either party to accept or reject within the specified period shall be construed as rejection of the report by that party.
 - c. Acceptance by the Owner of a report on entitlement only, or on entitlement with guidelines for quantum, does not obligate the Owner to any particular quantum amount.
- H. Advisory Opinions:
 - 1. An advisory opinion serves as a vehicle for potentially avoiding a DRB hearing. It is not intended to replace the dispute resolution process specified herein, but may be implemented as part of the good-faith negotiations conducted between the parties.

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2. When mutually agreed by the Owner and the Design-Builder, the DRB shall provide an advisory opinion on any issue.

7. COMPENSATION

- A. The Owner and the Design-Builder shall each bear their respective in-house costs and costs of providing those DRB-related services for which such responsibility has been allocated herein.
- B. Compensation for the Board members, and the expenses of operation of the Board, shall be shared by the Owner and Design-Builder in accordance with the following:
 1. The Owner will compensate directly the wages and travel expense for its selected member at the rates agreed to between the Owner and Board Member.
 2. The Design-Builder shall compensate directly the wages and travel expense for its selected member at the rates agreed to between the Design-Builder and Board Member.
 3. The Owner and Design-Builder shall share equally in the third member's wages and travel expense, and all of the operating expenses of the Board. These equally shared expenses shall be billed to and paid by the Owner. The Design-Builder's share will be deducted from monies due or coming due the Design-Builder.
 4. The Owner, will provide administrative services, such as conference facilities and secretarial services, to the Board and the Owner will bear the costs for this service.

11.3 Claims Process

11.3.1 Time for Filing Claim. Design-Builder shall file its Claim within the earlier of one hundred twenty (120) days from Owner's final offer in accordance with Section 11.1 above (if such an offer has been made) or the date of Final Completion.

11.3.2 Contents of Claim. The Claim shall be deemed to cover all changes in cost and time (including direct, indirect, impact, and consequential) to which Design-Builder may be entitled. It shall be fully substantiated and documented and at a minimum shall contain the following information:

- (1) A detailed factual statement of the Claim for additional compensation and time, if any, providing all necessary dates, locations, and items of Work affected by the Claim;
- (2) The date on which facts arose which gave rise to the Claim;

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- (3) The name of each employee, agent or representative of Owner knowledgeable about the Claim;
- (4) The specific provisions of the Contract Documents which support the Claim;
- (5) The identification of any documents and the substance of any oral communications that support the Claim;
- (6) Copies of any identified documents, other than the Contract Documents, that support the Claim;
- (7) If an adjustment in the Guaranteed Completion Date(s) is sought, then: (a) the specific days and dates for which it is sought; (b) the specific reasons Design-Builder believes an extension in the Guaranteed Completion Date(s) should be granted; and (c) Design-Builder's analysis of its Project Schedule to demonstrate the reason for such an adjustment;
- (8) If an adjustment in the Contract Sum is sought, the exact amount sought and a breakdown of that amount into the categories set forth in, and in the detail required by, Article 9; and
- (9) A statement certifying, under penalty of perjury, that the Claim is made in good faith, that the supporting cost and pricing data are true and accurate to the best of Design-Builder's knowledge and belief, that the Claim is fully supported by the accompanying data, and that the amount requested accurately reflects the adjustment in the Contract Sum or Guaranteed Completion Date(s) for which Design-Builder believes Owner is liable.

11.3.3 Time for Owner's Response. After Design-Builder has submitted a fully documented Claim that complies with all applicable provisions of Section 11.2.2 above, Owner shall respond in writing to Design-Builder as follows:

- (1) If the Claim amount is less than \$50,000, Owner shall provide a decision within sixty (60) days from the date the Claim is received; or
- (2) If the Claim amount is \$50,000 or more, Owner shall provide a decision within 60 days from the date the Claim is received, or with notice to Design-Builder of the date by which it will render its decision. Owner will then respond with a written decision in such additional time.

11.3.4 Owner's Review of Claim. To assist in the review of any Claim, Owner may visit the Site, or request additional information from Design-Builder in order to fully evaluate the issues raised by the Claim. Design-Builder shall proceed with performance

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of the Work pending final resolution of any Claim in accordance with Section 8.8 above. Owner's written decision on a Claim shall be final and conclusive as to all matters set forth in the Claim, unless Design-Builder follows the procedures set forth in Section 11.3 below.

11.3.5 Waiver. Compliance with the requirements of Sections 11.2.1 and 11.2.2 are a strict CONDITION PRECEDENT to Design-Builders seeking mediation, arbitration, and/or judicial relief of any kind. Any Claim of Design-Builder against Owner for damages, additional compensation, or additional time, shall be conclusively deemed to have been waived by Design-Builder unless timely made in accordance with the requirements of this Section 11.2, regardless of whether or not the Owner has been prejudiced by Design-Builder's failure to comply.

11.4 Arbitration. If Design-Builder disagrees with Owner's decision rendered in accordance with Section 11.2, Design-Builder shall provide Owner with a written demand for arbitration. No demand for arbitration of any such Claim shall be made later than 30 days after the date of Owner's decision on such Claim; failure to demand arbitration within said 30 day period shall result in Owner's decision being final and binding upon Design-Builder and all Subcontractors.

11.4.1 Demand for Arbitration. Notice of the demand for arbitration shall be filed with the American Arbitration Association (AAA), with a copy provided to Owner. The Parties shall negotiate or mediate under the Construction Mediation Rules of the AAA, or mutually acceptable service, before seeking arbitration in accordance with the then-applicable Construction Industry Arbitration Rules of AAA ("Rules") as follows:

- (1) Disputes involving \$75,000 or less shall be conducted in accordance with the Fast Track Procedures of the Rules.
- (2)) Disputes between \$75,000 and \$500,000 shall be conducted in accordance with the Regular Track Procedures of the Rules.
- (3) Disputes over \$500,000 shall be conducted in accordance with the Procedures for Large, Complex Construction Disputes of the Rules.

11.4.2 All Claims to be Arbitrated. All Claims arising out of the Work shall be resolved by arbitration. The judgment upon the arbitration award may be entered, or review of the award may occur, in the superior court having jurisdiction thereof. No independent legal action relating to or arising from the Work shall be maintained.

11.4.3 Joinder. Claims between Owner and Design-Builder and Design-Builder and its Subcontractors shall, upon demand by Owner, be submitted in the same arbitration or mediation.

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11.4.4 Resulting Change Order. If the Parties resolve the Claim prior to arbitration judgment, the terms of the resolution shall be incorporated in a Change Order. The Change Order shall constitute full payment and final settlement of the Claim, including all claims for time and for direct, indirect, or consequential costs, including costs of delays, inconvenience, disruption of schedule, or loss of efficiency or productivity.

11.5 Jurisdiction and Venue. The Parties agree that any judicial proceedings relating to this Agreement and Article 11, in particular, shall be brought only in the Superior Court of the State of Washington, in and for the County of Thurston.

11.6 Continuation of Work. Design-Builder shall continue to perform the Work and Owner shall continue to satisfy its payment obligations to Design-Builder pending final resolution of any dispute or disagreement.

11.7 Claims Audits. All Claims filed against Owner shall be subject to audit at any time following the filing of the Claim. Failure of Design-Builder, or Subcontractors of any tier, to maintain and retain sufficient records to allow Owner to verify all or a portion of the Claim or to permit Owner access to the books and records of Design-Builder, or Subcontractors of any tier, shall constitute a waiver of the Claim and shall bar any recovery.

11.7.1 Audit Documentation. In support of Owner audit of any Claim, Design-Builder shall, upon request, promptly make available to Owner the following documents:

- (1) Daily time sheets and supervisor's daily reports;
- (2) Collective bargaining agreements;
- (3) Insurance, welfare, and benefits records;
- (4) Payroll registers;
- (5) Earnings records;
- (6) Payroll tax forms;
- (7) Material invoices, requisitions, and delivery confirmations;
- (8) Material cost distribution worksheet;
- (9) Equipment records (list of company equipment, rates, etc.);
- (10) Vendors', rental agencies', Subcontractors', and agents' invoices;

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- (11) Contracts between Design-Builder and each of its Subcontractors, and all lower-tier Subcontractor contracts and supplier contracts;
- (12) Subcontractors' and agents' payment certificates;
- (13) Cancelled checks (payroll and vendors);
- (14) Job cost report, including monthly totals;
- (15) Job payroll ledger;
- (16) Planned resource loading schedules and summaries;
- (17) General ledger;
- (18) Cash disbursements journal;
- (19) Financial statements for all years reflecting the operations on the Work. In addition, Owner may require, if it deems it appropriate, additional financial statements for three (3) years preceding execution of the Work;
- (20) Depreciation records on all company equipment whether these records are maintained by the company involved, its accountant, or others;
- (21) If a source other than depreciation records is used to develop costs for Design-Builder's internal purposes in establishing the actual cost of owning and operating equipment, all such other source documents;
- (22) All non-privileged documents which relate to each and every Claim together with all documents which support the amount of any adjustment in Contract Sum or Guaranteed Completion Date(s) sought by each Claim;
- (23) Work sheets or software used to prepare the Claim establishing the cost components for items of the Claim including but not limited to labor, benefits and insurance, materials, equipment, Subcontractors, all documents which establish the time periods, individuals involved, the hours for the individuals, and the rates for the individuals; and
- (24) Work sheets, software, and all other documents used by Design-Builder to prepare its bid.

11.7.2 Claims Audits Procedure. The audit may be performed by employees of Owner or a representative of Owner. Design-Builder, and its Subcontractors, shall provide adequate facilities acceptable to Owner, for the audit during normal business hours.

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Design-Builder, and all Subcontractors, shall make a good faith effort to cooperate with Owner's auditors. All records shall be maintained for a period of five (5) years after final payment under this Agreement.

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ARTICLE 12

PERIODIC INSPECTION AND CORRECTION OF WORK

12.1 Periodic Inspections. At Owner's discretion, Owner and its respective agents and representatives, including Owner's Design-Build Consultant, shall have the right to inspect and test the Work at the Site or where the same is being prepared, manufactured, fabricated or assembled (including but not limited to any item of Equipment and Materials, design, engineering, or other service or the workmanship associated therewith). Design-Builder shall, at the request of Owner, arrange for any such inspection and testing at reasonable times and upon reasonable advance notice. Owner's inspection and testing may include, to the extent Owner deems it appropriate, testing of such Work. Owner shall inform Design-Builder promptly of any Defects or Deficiencies in the Work it discovers in any inspection or test of the Work. Any inspection or test by Owner, Owner's Design-Build Consultant or any of their representatives of any part of the Work, or any failure to inspect or test, shall in no way: (a) affect Design-Builder's obligations to perform the Work in accordance with the Contract Documents, including, but not limited to, compliance with the Project QMP; (b) constitute or imply acceptance; (c) relieve Contractor of responsibility for risk of loss or damage to the Work; or (d) impair Owner's right to reject defective or nonconforming items, or to avail itself of any other remedy to which it may be entitled. All such inspections and tests shall be conducted in a manner that does not unreasonably interfere with the normal performance and progress of the Work. Notwithstanding anything to the contrary in the Contract Documents, Owner shall have the right to take photographs and/or videos of the Work and Site at any time.

12.2 Access to and Dismantling of Work. Design-Builder shall fully cooperate with Owner at any reasonable time that Owner shall determine that inspection of the Work is necessary or appropriate. Such cooperation shall include furnishing Owner with access to the Work whenever and wherever Work is in progress, even to the extent of dismantling finished Work where necessary to permit such inspection. If such dismantling and subsequent inspection reveals Defects or Deficiencies, such Work and all associated Work shall be corrected at the expense of Design-Builder. If such dismantling and subsequent inspection reveals no Defects or Deficiencies, such Work shall be restored at the expense of Owner.

12.3 Correction of Work. Design-Builder shall promptly correct, at its own expense, any Defects or Deficiencies in any part of the Work, regardless of the stage of its completion or the time or place of discovery of such errors. If Design-Builder fails to take corrective actions, Owner may replace, correct, or remove the non-conforming work and charge the cost thereof to Design-Builder.

12.4 Work Affected By Corrective Work. Design-Builder shall bear the cost of correcting destroyed or damaged Work, whether completed or partially completed,

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caused by Design-Builder's correction or removal of Work which is not in accordance with the requirements of the Contract Documents.

12.5 Owner Acceptance of Non-Conforming Work. If Owner prefers to accept Work which is not in accordance with the requirements of the Contract Documents, Owner may do so instead of requiring its removal and correction, in which case the Contract Sum may be reduced as appropriate and equitable.

12.6 Removal From Site. Design-Builder shall remove from the Site portions of the Work which are not in accordance with the requirements of the Contract Documents and are neither corrected by Design-Builder nor accepted by Owner.

12.7 Observance of Tests. Owner shall have the right to observe all tests of the Work and the Project performed by Design-Builder pursuant to the Contract Documents.

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ARTICLE 13

WARRANTIES AND CORRECTION OF DEFECTS OR DEFICIENCIES

13.1 Design-Builder's Warranty. Design-Builder warrants that: (a) the Equipment and Materials will be new, free of Defects or Deficiencies in materials and workmanship, and fit and sufficient for their intended purpose as set forth in the Contract Documents; (b) the Work will be performed in a good and workmanship like manner in accordance with the standards and requirements specified in the Contract Documents; and (c) the Project shall be designed and constructed to meet the requirements of the Contract Documents and to produce a fully functional facility that is capable of achieving all performance objectives of the Contract Documents and of operating free of major defects in its major components.

13.2 Additional Warranty Obligations. With respect to all warranties for Work, Design-Builder shall:

- (1) Obtain all warranties that would be given in normal commercial practice;
- (2) Require all warranties to be executed, in writing, for the benefit of Owner;
- (3) Enforce all warranties for the benefit of Owner, if directed by Owner; and
- (4) Be responsible to enforce any Subcontractor warranty should they extend beyond the period specified in the Contract Documents.

13.3 Correction of Defects or Deficiencies

13.3.1 Obligation to Correct. Design-Builder agrees to correct any Work that is found to not be in conformance with the Contract Documents, including but not limited to those subject to the warranties identified in Sections 13.1 and 13.2 above, within a period of twelve (12) months from the Final Completion, or within such longer period to the extent required by the Contract Documents.

13.3.2 Notice. Design-Builder shall, within seven (7) days of receipt of written notice from Owner that the Work is not in conformance with the Contract Documents, take necessary steps to commence correction of such nonconforming Work, including the correction, removal or replacement of the nonconforming Work and any damage caused to other parts of the Work affected by the nonconforming Work. If Design-Builder fails to commence the necessary steps within such seven (7) day period, Owner, in addition to any other remedies provided under the Contract Documents, may provide Design-Builder with written notice that Owner will commence correction of such nonconforming Work with its own forces. If Owner does perform such corrective Work, Design-Builder shall be responsible for all reasonable costs incurred by Owner in performing such correction.

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If the nonconforming Work creates an emergency requiring an immediate response, the seven (7) day periods identified herein shall be inapplicable.

13.3.3 No Limitation on Other Obligations. Nothing contained in this section shall be construed to establish a period of limitation with respect to other obligations which Design-Builder might have according to the Contract Documents. Establishment of the time period of twelve (12) months as described in Section 13.3.1 above relates only to the specific obligation of Design-Builder to correct the Work, and has no relationship to the time within which Design-Builder's obligation to comply with the Contract Documents may be sought to be enforced, including the time within which such proceedings may be commenced. Warranties provided pursuant to this Article 13 are in addition to any other rights the Owner may have under the Contract Documents.

13.4 Warranty Survey. Owner shall schedule a Warranty Survey to take place ten (10) months after Substantial Completion. Design-Builder will be given an opportunity to attend the Warranty Survey at its own expense. In accordance with Section 13.3, Owner will provide Design-Builder notice of all Defects and Deficiencies discovered during the Warranty Survey.

13.5 Survival. The obligations under this Article shall survive Final Acceptance.

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ARTICLE 14 **TITLE AND OWNERSHIP OF WORK PRODUCT**

14.1 Clear Title. Design-Builder warrants and guarantees that legal title to and ownership of the Work shall be free and clear of any and all liens, claims, security interests or other encumbrances when title thereto passes to Owner. With respect to all computer programs used in connection with the operation and maintenance of the Project, Design-Builder warrants legal title to, or a legal license to use, such programs when title thereto passes to Owner. Title to all Work, Equipment and Materials, tools, supplies provided by Design-Builder as part of the Work will pass to Owner as and to the extent: (a) payment therefore is made by Owner in accordance with this Agreement; (b) they are incorporated into the Project; or (c) upon termination of this Agreement for an Event of Design-Builder Default pursuant to Article 15, whichever is earlier. Design-Builder shall deliver to Owner such assignments, bills of sale or other documents as reasonably requested by Owner to evidence such transfer of title.

14.2 Design Work Product

14.2.1 Ownership of Design Work Product. All drawings, documents, specifications and other documents and electronic data furnished by or through Design-Builder to Owner under this Agreement (“Design Work Product”) shall be deemed the joint property of Owner, Design-Builder, and any Subcontractor who might otherwise, by contract or law, have a property interest in such property. Owner shall have the full and unencumbered right, without charge, to retain, use, modify, damage and destroy the Design Work Product for any purpose, including but not limited to the operation, maintenance, alteration and expansion (including the construction of other facilities not integrated as part of the Work) of the Project.

14.2.2 Reuse of Design Work Product. The Design Work Product is not intended or represented to be suitable for reuse by Owner or others on expansions of the Project or on any other project. Any reuse without prior written verification or adaptation by Design-Builder or applicable Subcontractors for the specific purpose intended will be at Owner's sole risk and without liability or legal exposure to Design-Builder.

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ARTICLE 15 DEFAULT OF DESIGN-BUILDER

15.1 Events of Default by Design-Builder. Design-Builder shall be in default hereunder upon the occurrence of any one of the following events, which shall be events of default (each an “Event of Design-Builder Default”) if not cured by Design-Builder within fourteen (14) days following delivery to Design-Builder of a notice of such event from Owner; provided, however, that the Event of Design-Builder Default set forth in Section 15.1.6 shall be immediate and no further notice from Owner shall be required:

15.1.1 Failure to Prosecute Work. Design-Builder fails to prosecute the Work or any portion thereof with sufficient diligence to ensure Substantial Completion or Final Completion within the Guaranteed Completion Date(s);

15.1.2 Failure to Correct Work. Design-Builder fails in a material way to replace or correct Work not in conformance with the Contract Documents;

15.1.3 Failure to Provide Adequate Labor and Materials. Design-Builder persistently fails to supply skilled workers or proper materials or equipment;

15.1.4 Failure to Pay. Design-Builder fails to make prompt payment due to Subcontractors or any other entity or person who provides services or performs any aspect of the Work;

15.1.5 Failure to Comply with Laws. Design-Builder materially disregards or fails to comply with Governmental Rules or Governmental Approvals;

15.1.6 Bankruptcy, Etc. Design-Builder institutes or has instituted against it a case under the United States Bankruptcy Code, and Design-Builder, or its trustee or other successor, fails: (a) to furnish, upon request of Owner, adequate assurance of the ability of Design-Builder to perform all future material obligations under the Contract Documents within ten (10) days after receiving notice of the request; or (b) to file an appropriate action within the bankruptcy court to seek assumption or rejection of this Agreement within sixty (60) days of the institution of the bankruptcy filing and diligently prosecute such action; or

15.1.7 Material Breach. Design-Builder is otherwise in material breach of any provision of the Contract Documents.

15.2 Owner’s Remedies Against Design-Builder. The provisions of Article 11 hereof notwithstanding, if an Event of Design-Builder Default has occurred and has not been cured after Owner’s seven (7) day notice pursuant to Section 15.1 above, Owner shall have the right to terminate immediately this Agreement, in addition to any rights

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and remedies that may be available at law or in equity or as provided herein. If it is subsequently determined that Owner was not entitled to terminate this Agreement for Design-Builder default, this Agreement shall be deemed terminated for convenience under Article 16 below.

15.3 Additional Owner's Rights Upon Design-Builder Default. If Owner elects to terminate this Agreement pursuant to Section 15.2 hereof, Design-Builder shall provide Owner with the right to continue to use any and all Work, including but not limited to any Work developed by Design Consultants, Owner deems necessary. Furthermore, Owner shall have the right to take possession of and Design-Builder shall make available to Owner all Equipment and Materials, construction equipment and other components of the Work, whether located at the Site or elsewhere, on the date of such termination for the purpose of completing the Work, and Owner may employ any other person or entity (sometimes hereinafter referred to as "Replacement Design-Builder") to finish the Work in accordance with the terms of this Agreement by whatever method that Owner may deem expedient. Owner shall make such expenditures as in Owner's sole judgment will best accomplish the timely completion of the Project, provided Owner shall not be required or expected to mitigate any such costs by terminating, repudiating or renegotiating any agreement entered into between Design-Builder and any Subcontractor, including but not limited to those agreements with Design Consultants.

15.4 General Obligations. If Owner elects to terminate this Agreement pursuant to Section 15.2 hereof, Design-Builder shall, at Owner's request and at Design-Builder's expense, perform the following services relative to the Work so affected:

15.4.1 Inventory Equipment, Etc. Assist Owner in preparing an inventory of all equipment and other components of the Work in use or in storage at the Site and elsewhere;

15.4.2 Assign Subcontracts, Etc. Assign to Owner or to any Replacement Design-Builder designated by Owner, without any right to compensation not otherwise provided for herein, title to all Work not already owned by Owner, together with all subcontracts and other contractual agreements (including warranties) and rights thereunder as may be designated by Owner, all of which subcontracts and contractual agreements shall be so assignable, and assign to Owner to the extent assignable all issued permits, licenses, authorizations and approvals then held by Design-Builder pertaining to the Work which have been procured in connection with performance of the Work, including but not limited to those associated with Design Consultants;

15.4.3 Deliver Design Work Product. Deliver to Owner all Design Work Product as may be requested by Owner for the completion and/or operation of the Project; and

15.5 Payment Obligations. If Owner terminates this Agreement, as soon as practicable after Final Completion of the Project, Owner shall determine the total

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reasonable and necessary expense incurred and accrued in connection with the termination of this Agreement (including all legal fees and expenses) and the completion of the Work including, without limitation, all amounts charged by any Replacement Design-Builder to finish the Work based on the obligations such Replacement Design-Builder assumes under this Agreement and under any of Design-Builder's subcontract(s) or other contractual agreement(s) that Design-Builder has assigned to Owner or to such Replacement Design-Builder pursuant to Section 15.4.2 and additional reasonable and necessary overhead incurred and accrued by Owner to effect such takeover and to complete the Work. Design-Builder shall be entitled to receive the balance due of the Contract Sum minus the sum of: (a) Owner's expenses incurred in connection with the termination of this Agreement and the completion of the Work as determined in accordance with the preceding sentence and (b) all Liquidated Damages owed by Design-Builder. If the sum of such Liquidated Damages and the total expense so incurred by Owner in completing the Work exceeds the balance of the Contract Sum unpaid at the time of Design-Builder's default, then Design-Builder shall be liable for and shall pay to Owner the amount of such excess within twenty (20) business days following receipt of Owner's demand for such payment. Design-Builder obligations for payment shall survive termination.

15.6 No Relief of Responsibility. Termination of the Work in accordance with this Article 15 shall not relieve Design-Builder or its surety of any responsibilities for Work performed.

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ARTICLE 16 TERMINATION FOR CONVENIENCE

16.1 Owner's Right to Terminate Agreement for Convenience. Owner has the right, upon written notice, to terminate this Agreement for its convenience if Owner determines that such termination is in Owner's best interests.

16.2 Design-Builder's Responsibility Upon Termination for Convenience. Unless Owner directs otherwise, after receipt of a written notice of termination for either cause or convenience, Design-Builder shall promptly:

- (1) Stop performing Work on the date and as specified in the notice of termination;
- (2) Place no further orders or subcontracts for materials, equipment, services or facilities, except as may be necessary for completion of such portion of the Work as is not terminated;
- (3) Cancel all orders and subcontracts, upon terms acceptable to Owner, to the extent that they relate to the performance of Work terminated;
- (4) Assign to Owner all of the right, title, and interest of Design-Builder in all orders and subcontracts;
- (5) Take such action as may be necessary or as directed by Owner to preserve and protect the Work, Site, and any other property related to this Project in the possession of Design-Builder in which Owner has an interest; and
- (6) Continue performance only to the extent not terminated.

16.3 Equitable Adjustment for Termination for Convenience. If Owner terminates the Work for convenience, Design-Builder shall be entitled to be paid the prorated portion of the Contract Sum for all work properly performed by Design-Builder prior to the effective date of the termination for convenience, plus the reasonable administrative and wind-down expenses associated with such termination. The preceding amount shall be reduced by amounts previously paid by Owner to Design-Builder and any amounts which Owner has the right to offset or withhold by the terms of this Agreement. Notwithstanding the above, in no event shall Design-Builder ever be entitled to recover: (a) profit or unabsorbed overhead in connection with work not actually performed or future work; (b) amounts that would result in the Design-Builder receiving payments that it would not have been entitled to receive under this Agreement if the Design-Builder was not terminated for convenience; or (c) amounts that would cause the total payments received by the Design-Builder to exceed the Contract Sum.

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ARTICLE 17 **SUSPENSION OF WORK**

17.1 Owner's Suspension of Work for Convenience. Owner may, for its convenience and for any reason, suspend the Work in whole or in part at any time by written notice to Design-Builder, stating the nature, effective date and anticipated duration of such suspension, whereupon Design-Builder shall suspend the Work to the extent specified and shall place no further orders or subcontracts relating thereto. During the period of any such suspension, Design-Builder shall protect and care for all Work, Equipment and Materials at the Site or at the storage areas under its responsibility. If Design-Builder claims that the suspension has affected either the Contract Sum or Guaranteed Completion Date(s), Design-Builder shall be entitled to submit a request for adjustment in accordance with Articles 8, 9 and/or 10, as applicable. Design-Builder shall use its best efforts to minimize the costs and expenses associated with a suspension of the Work.

17.2 Owner's Suspension of Work for Cause. If Design-Builder fails or refuses to perform its obligations in accordance with the Contract Documents, Owner may order Design-Builder, in writing, to stop the Work, or any portion thereof, until satisfactory corrective action has been taken. Design-Builder shall not be entitled to an equitable adjustment in the Contract Sum or Guaranteed Completion Date(s) for any increased cost or time of performance attributable to Design-Builder's failure or refusal to perform or from any reasonable remedial action taken by Owner based upon such failure.

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ARTICLE 18 **INSURANCE**

18.1 Insurance. All insurance and surety bonds required by the contract documents shall be procured from insurance carriers admitted to do business within the State of Washington and have a rating of A-, Class VII or better in the most recently published edition of Best's Reports. Any exception shall be reviewed and approved by the Owner before the contract is accepted.

18.1.1 Coverage and Limits. Prior to commencement of the Work, Design-Builder shall obtain all the minimum coverages and limits set forth below. Owner does not warrant or represent that such coverages and limits are appropriate or adequate to protect the Design-Builder, nor shall they be construed to relieve Design-Builder from liability in excess of such limits. Coverages are the minimum to be provided and are not limitations of liability under the Contract, indemnification, or applicable law provisions. All deductibles must be disclosed and are subject to approval by Owner, and the cost of any claim payments falling with the deductible shall be the sole responsibility of Design-Builder.

.1 **CGL.** A policy of Commercial General Liability Insurance, written on Insurance Services Office (ISO) for CG 00 01 12 04 or equivalent, including contractual liability, against claims for bodily injury, personal injury, death or property damage occurring or arising out of services provided under this contract. This insurance shall cover claims caused by any act, omission, or negligence of the Contractor or its officers, agents, representatives, assigns or servants. The limits of liability insurance, which may be increased as deemed necessary by the contracting parties, shall be:

a. Bodily Injury and Property Damage:

Each Occurrence	\$2,500,000.00
General Aggregate	\$5,000,000.00
Products & Completed Operations Aggregate	\$5,000,000.00
Personal and Advertising Injury Limit	\$2,500,000.00
Fire Damage Limit (any one fire)	\$100,000.00
Medical Expense Limit (any one Person)	\$5,000.00

b. Stop Gap Employers Liability:

Each Accident	\$1,000,000.00
Disease – Policy Limit	\$1,000,000.00
Disease – Disease – Each Employee	\$1,000,000.00

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.2 **CAL.** A policy of Commercial Automobile Liability Insurance, written on Insurance Services Office (ISO) form CA 00 01 covering Symbol 1 (Any Auto), or equivalent, with a combined single limit of not less than \$1,000,000.00 for each accident.

.3 **Builder's Risk Insurance.** Design-Builder shall purchase and maintain all risk (excluding flood) property insurance in the amount of the Contract Sum on a replacement cost basis until Substantial Completion, and insure against the perils of fire and extended coverage and physical loss or damage including theft, vandalism, malicious mischief, collapse, false work, temporary buildings, debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Owner's and Owner's consultant's services and expenses required as a result of an insured loss.. The insurance shall cover the interest of Owner, Design-Builder, and any Subcontractors, as their interests may appear.

.4 **Design-Builder's Professional Liability Insurance.** Design-Builder shall maintain or require its primary design firm to maintain errors and omissions insurance in an amount no less than \$2 million (deductible of up to \$50,000 permitted), subject to availability of such insurance. The policy shall provide coverage from the date on which the RFP was issued and run for three years after Substantial Completion. Design-Builder shall promptly notify Owner of any material changes to, interruption of, or termination of this insurance. The coverage shall include design subconsultants of any tier.

.5 **Worker's Compensation.** Design-Builder shall secure its liability for industrial injury to its employees in accordance with the provisions of Revised Code of Washington (RCW) Title 51. If Design-Builder is qualified as a self-insurer in accordance with Chapter 51.14, RCW, Design-Builder shall so certify by letter signed by a corporate officer indicating such and setting forth the limits of any policy of excess insurance covering its employees.

18.1.2 Scope of Coverage. All insurance coverages shall protect against claims for damages for personal and bodily injury or death, as well as claims for property damage, which may arise from operations in connection with the Work whether such operations are by Design-Builder or any Subcontractor. All insurance coverage required by this section shall be written and provided by "occurrence-based" policy forms rather than by "claims made" forms except for Professional Liability Insurance.

18.1.3 Owner as Additional Insured. All insurance coverages, except for Professional Liability and Worker's Compensation Insurance, shall be endorsed to include Owner as an additional named insured for Work performed in accordance with the Contract Documents, and all insurance certificates shall evidence Owner as an additional insured.

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18.1.4 Waiver of Subrogation. Owner and Design-Builder waive all subrogation rights against each other, any Subcontractors, Owner's Representative, Owner's Design-Build Consultant and Owner's Design-Build Consultant's subconsultants, and Owner's Separate Contractors, if any, and any of their subcontractors, for damages caused by fire or other perils to the extent covered by property insurance obtained pursuant to this section or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by Owner as fiduciary. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

18.1.5 Insurance Certificates. Prior to contract execution, Design-Builder shall furnish ACCORD Form Certificates of Insurance evidencing the minimum insurance coverages required under these provisions, and showing the Owner as an additional named insured where required in the above provisions. All insurance certificates shall specifically require forty-five (45) days prior notice to Owner of cancellation or a material change, except thirty (30) days for surplus line insurance.

18.2 Subcontractors' Insurance. Before permitting any of its Subcontractors to perform any Work at the Site, Design-Builder shall obtain a certificate of insurance from each such Subcontractor evidencing that such Subcontractor has obtained insurance in such amounts and against such risks as are identified in Exhibit 18.1,

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ARTICLE 19 INDEMNIFICATION

19.1 Indemnity By Design-Builder. Design-Builder shall defend, indemnify, and hold Owner, Owner's Design-Build Consultant and their employees, agents and representatives harmless from and against all claims, demands, losses, damages, or costs, including but not limited to damages arising out of bodily injury or death to persons and damage to property, caused by or resulting from:

- (1) The negligent acts or omissions of Design-Builder, Design Consultants, Subcontractors, anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable.
- (2) The concurrent negligence of Design-Builder Design Consultants, Subcontractors, anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable, but only to the extent of the negligence of Design-Builder, Design Consultants, Subcontractors, anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable; and
- (3) The use of any design, process, or equipment which constitutes an infringement of any United States patent presently issued, or violates any other proprietary interest, including copyright, trademark, and trade secret, provided, however, that such indemnity shall not apply to any design, process or equipment that has been specified by Owner in the RFP Documents.

19.2 No Limitation and Waiver of Immunity. In any action against Owner and any other person or entity indemnified in accordance with this Article 19, by any employee or agent of Design-Builder, any Subcontractor, or anyone directly or indirectly employed by any of them, the indemnification obligation of this Article 19 shall not be limited by a limit on the amount or type of damages, compensation, or benefits payable by or for Design-Builder or any Subcontractor under RCW Title 51 (the Industrial Insurance Act) or any other employee benefit acts. In addition, Design-Builder waives immunity as to Owner, in accordance with RCW Title 51. Owner and Design-Builder acknowledge this provision was mutually negotiated.

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ARTICLE 20 PUBLIC RECORDS ACT

20.1 Public Records Act. All information provided by Design-Builder to Owner under this Agreement and on the Project is, upon their receipt by Owner, deemed the property of Owner and are subject to the Washington Public Records Act, RCW Ch. 42.17 (the “Public Records Act”). In no event shall Owner, or any of its agents, representatives, employees or consultants, be liable to a Design-Builder or a team member of a Design-Builder as the result of the disclosure of all or a portion of such information submitted. If Owner receives a request for public disclosure of information that Design-Builder has designated as a trade secret, proprietary information, or other confidential information exempted from disclosure, Owner will use reasonable efforts to notify Design-Builder of the request and give Design-Builder an opportunity to seek a court injunction against the requested disclosure within the time period specified in the notice issued by Owner.

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ARTICLE 21 **INDEPENDENT CONTRACTOR**

21.1 Independent Contractor. Design-Builder is an independent contractor and nothing contained herein shall be construed as constituting any relationship with Owner other than that of owner or independent Design-Builder, nor shall it be construed as creating any relationship whatsoever between Owner and Design-Builder's employees or Subcontractors, except pursuant to the operation of Section 15.4.2 above. Neither Design-Builder nor any of its employees shall be deemed to be employees of Owner.

21.2 Design-Builder's Responsibilities for its Employees. Subject to the provisions of the Contract Documents, Design-Builder shall have sole authority and responsibility to employ, discharge and otherwise control its employees.

21.3 Responsibilities of Design-Builder as Principal for its Subcontractors. Design-Builder has complete and sole responsibility as a principal for its agents, Subcontractors and all other hires to perform or assist in performing the Work.

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ARTICLE 22 MWBE PARTICIPATION

22.1 Minority and Women's Business Enterprises (MWBE) Participation. In accordance with the legislative findings and policies set forth in RCW Ch. 39.19, the state of Washington encourages participation in all of its contracts by firms certified by the Office of Minority and Women's Business Enterprises ("OMWBE"). Participation may be either on a direct basis or on a Subcontractor basis. However, no preference was included in the evaluation of B&F Proposals submitted in response to the RFP, and no minimum level of minority and women-owned business enterprise participation is required as a condition for receiving an award of this Agreement. Any affirmative action requirements set forth in any federal Governmental Rules included or referenced in the Contract Documents will apply. In accordance with the legislative findings and policies set forth in Chapter 39.19 RCW the State of Washington encourages participation in all of its contracts by MWBE firms certified by the office of Minority and Women's Business Enterprises (OMWBE). Participation may be either on a direct basis in response to a solicitation/invitation or as a subcontractor to a Design-Builder. No preference will be included in the evaluation of bids/proposals, no minimum level of MWBE participation shall be required as a condition for receiving an award and bids/proposals will not be rejected or considered non-responsive on that basis

22.2 Definition. When referred to in this Contract, the terms Minority Business Enterprise (MBE) and Women's Business Enterprise (WBE) will be as defined by OMWBE, WAC 326-02-030.

22.3 Contact Information. The OMWBE has compiled a directory of certified firms. Copies of this directory may be obtained through the OMWBE. For information regarding the certification process or the certification status of a particular firm, contact: The OMWBE, 406 South Water, PO Box 41160, Olympia, Washington 98504-1160, telephone (360) 753-9693.

22.4 Eligible MWBEs MWBE firms utilized for this project will be certified through the OMWBE as minority (MBE) and/or women business enterprise (WBE) firms.

22.5 MWBE Voluntary Goals. The Owner has established voluntary goals for MWBE participation for this project. The voluntary goals are 10% for MBE's and 6% for WBE's.

22.6 Intent to Use MWBEs. If any part of the Work, including the supply of Equipment and Materials, is anticipated to be subcontracted, then prior to receipt of the first payment, Design-Builder shall submit, pursuant to 3.9.3 above, a list of all Subcontractors it intends to use, designate whether any of the Subcontractors are certified MWBE firms, indicate the anticipated dollar value of each MWBE subcontract, and provide Tax Identification Number (TIN).

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22.7 MWBE Participation. If any part of the Work, including the supply of Equipment and Materials, is actually subcontracted during completion of the Work, then the Design-Builder shall submit a statement of participation indicating what MWBE firms were used and the dollar value of their subcontracts with the Design-Builders' monthly invoices.

22.8 Not Exclusive. The provisions of this Article 22 are not intended to replace or otherwise change the requirements of RCW 39.30.060.

22.9 Maintenance of Records. Design-Builder shall maintain, for at least three (3) years after Final Completion, relevant records and information necessary to document the level of utilization of MWBEs and other businesses as Subcontractors on this Project, as well as any efforts Design-Builder made to increase the participation of MWBEs as listed in Section 22.10 below. Design-Builder shall also maintain, for at least three (3) years after Final Completion, a record of all quotes, bids, estimates, or proposals submitted to Design-Builder by all businesses seeking to participate as Subcontractors on this Project. Owner shall have the right to inspect and copy such records. If this contract involves federal funds, Design-Builder shall comply with all record keeping requirements set forth in any federal Governmental Rules referenced in the Contract Documents.

22.10 Advertisements. Design-Builder shall advertise opportunities for Subcontractors in a manner reasonably designed to provide MWBEs capable of performing the work with timely notice of such opportunities, and all advertisements shall include a provision encouraging participation by MWBE firms. Advertising may be done through general advertisements (e.g. newspapers, journals, etc.) or by soliciting bids directly from MWBEs. Design-Builder shall provide MWBEs that express interest with adequate and timely information about plans, specifications, and requirements of the Project. Break down total requirements into smaller tasks or quantities, where economically feasible, in order to permit maximum opportunity for participation by MWBEs and other small businesses. Utilize the services of available minority community organizations, minority contractor groups, local minority assistance offices and organizations that provide assistance in the recruitment and placement of MWBEs and other small businesses.

22.11 Non-Discrimination. Design-Builder shall not create barriers to open and fair opportunities for all businesses, including MWBEs, to participate in all State contracts and to obtain or compete for contracts and subcontracts as sources of supplies, equipment, construction and services. In considering offers from and doing business with subcontractors and suppliers, Design-Builder shall not discriminate on the basis of race, color, creed, religion, sex, age, nationality, marital status, or the presence of any mental or physical disability in an otherwise qualified disabled person.

22.12 Violations. Any violation of the mandatory requirements of this part of the contract shall be a material breach of contract for which Design-Builder may be subject

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to a requirement of specific performance, or damages and sanctions provided by contract, by RCW 39.19.090, or by other applicable laws.

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ARTICLE 23 PREVAILING WAGES AND APPRENTICESHIP

23.1 Prevailing Wages. Design-Builder shall pay the prevailing rate of wages to all workers, laborers, or mechanics employed in the performance of any part of the Work in accordance with RCW Ch. 39.12 and the Governmental Rules of the Washington State Department of Labor and Industries. The schedule of prevailing wage rates for the locality or localities of the Work is determined by the Industrial Statistician of the Department of Labor and Industries. It is Design-Builder's responsibility to verify the applicable prevailing wage rate at the time of its B&F Proposal.

.1 Wage Rates. Before commencing the Work, Design-Builder shall file a statement under oath with Owner and with the Director of Labor and Industries certifying the rate of hourly wage paid and to be paid each classification of laborers, workers, or mechanics employed upon the Work by Design-Builder and all Subcontractors. Such rates of hourly wage shall not be less than the prevailing wage rate.

.2 Disputes. Disputes regarding prevailing wage rates shall be referred for arbitration to the Director of the Department of Labor and Industries. The arbitration decision shall be final and conclusive and binding on all parties involved in the dispute as provided for by RCW 39.12.060.

.3 Applications for Payment. Each Application for Payment submitted by Design-Builder shall state that prevailing wages have been paid in accordance with the pre-filed statement(s) of intent, as approved. Copies of the approved intent statement(s) shall be posted on the Site with the address and telephone number of the Industrial Statistician of the Department of Labor and Industries where a complaint or inquiry concerning prevailing wages may be made.

.4 Fees. In compliance with Chapter 296-127 WAC, Design-Builder shall pay to the Department of Labor and Industries the currently established fee(s) for each statement of intent and/or affidavit of wages paid submitted to the Department of Labor and Industries for certification.

.5 Intent to Pay Prevailing Wages. Copies of approved Intents to Pay Prevailing Wages for Design-Builder and all Subcontractors shall be submitted with Design-Builder's first application for payment. As additional Subcontractors perform Work on the Project, their approved Intent forms shall be submitted with Design-Builder's next application for payment.

.6 Certified Payroll Copies. Design-Builder and all Subcontractors shall promptly submit to Owner certified payroll copies if requested by Owner.

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23.2 Apprenticeship

.1 Minimum Levels of Apprenticeship Participation and Voluntary Diversity Goals. In accordance with RCW 39.04.320 State of Washington will require Apprenticeship Participation for the Project. The minimum required percentage of apprentice labor hours compared to the total labor hours will be fifteen percent (15%).

.2 Apprenticeship Programs. Apprentice participation under this Agreement may be counted towards the required percentage (%) only if the apprentices are from an apprenticeship program registered and approved by the Washington State Apprenticeship and Training Council (RCW Ch. 49.04 and WAC 296-04).

.3 Information. Design-Builder may contact the Department of Labor and Industries, Specialty Compliance Services Division, Apprenticeship Section, P.O. Box 44530, Olympia, WA 98504-4530 by phone at (360) 902-5320, and e-mail at thum235@lin.wa.gov, to obtain information on available apprenticeship programs.

.4 Statement of Apprenticeship/Journeyman Participation. Design-Builder shall submit a “**Statement of Apprentice/Journeyman Participation**” on forms provided by the Department of Transportation (RFP Section II-6.B) with every request for progress payment. Design-Builder shall submit consolidated and cumulative data collected by Design-Builder and collected from all Design-Builder’s Subcontractors. The data to be collected and submitted include the following:

- (1) Design-Builder name and address;
- (2) Contract number;
- (3) Project name;
- (4) Contract value;
- (5) Reporting period “Notice to Proceed” through “Invoicing Date”;
- (6) Apprentice Name/Craft/Trade/Registration Number/occupation of all (Design Builder or Subcontractor trades working on the project) apprentices and journeymen.
- (7) Total number of hours worked by apprentices categorized by gender and ethnicity;
- (8) Total number of hours worked by journeymen categorized by gender and ethnicity;

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- (9) Cumulative combined total of apprenticeship and journeymen labor hours;
and
- (10) Total percentage of apprentice hours worked.

.5 Changes in Apprentice Participation. No changes to the required percentage (%) of apprentice participation shall be allowed without written approval of Owner. In any request for the change Design-Builder shall clearly document the lack of availability of apprentices in the specific geographic area of the job and clearly demonstrate a good faith effort to comply with the requirements for apprentice participation.

23.3 Violation. Any violation by Design-Builder of the mandatory requirements of this Article 23 shall be a material breach of the Agreement entitling Owner to take whatever right it has under this Agreement or by law, including but not limited to withholding payment, suspending the work for cause, or terminating the Agreement for cause.

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ARTICLE 24 NOTICES AND COMMUNICATIONS

24.1 Notices. Any formal notice pursuant to the terms and conditions of the Contract Documents shall be in writing and either: (a) delivered personally; (b) sent by certified mail, return receipt requested; (c) sent by a recognized overnight mail or courier service with delivery receipt required; or (d) sent by facsimile transfer and acknowledged by recipient, to be followed on the same day by either (a), (b) or (c) above:

If to Design-Builder:

Attention:

with a copy to:

If to Owner:

Either Party may change its address or the Party to notify by a notice delivered in accordance with this Section.

24.2 Effectiveness of Notices. Notices shall be effective when received by the Party to whom addressed.

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ARTICLE 25 PROJECT PLANNING AND CONTROL

25.1 Project Schedule. Within thirty (30) days of Notice to Proceed, Design-Builder shall submit to Owner two (2) print-out copies and one (1) CD copy, for its review and approval, of a CPM schedule that includes, among other things: (a) the order in which Design-Builder proposes to carry out the Work (including each stage of design, procurement, manufacture, delivery to Site, construction, inspection and testing); and (b) the times when submissions and approvals or consents by Owner are required. If Owner does not approve such submission, Design-Builder shall resubmit a revised schedule to Owner within seven (7) days of its receipt of Owner's comments on such schedule. This process shall continue until such time as the Owner approves schedule ("Project Schedule").

The Project Schedule shall show the manner in which the Design-Builder intends to prosecute the Work from execution through Final Completion. The Contract Schedule shall be prepared using precedence diagram methodology, which clearly delineates the relationship between Contract activities. Each activity must include the following:

1. The activity ID. and description.
2. The activity early start and early finish dates.
3. The activity duration in calendar days.
4. The logic tie(s) to all preceding and related activities, i.e., activity predecessor(s).
5. The logic tie(s) to all subsequent and related activities, i.e., activity successor(s).
6. Total float for each activity.

The Project Schedule shall be sufficiently detailed to evaluate the progress of individual activities on a daily basis. No activity shall have a duration greater than 15 days unless approved otherwise by the Owner. All float contained in the Contract Schedule shall be considered a project resource available to either party or both parties as needed to achieve Substantial Completion by the specified deadline.

The Project Schedule shall incorporate the following specific restrictions, constraints, activities and milestones:

1. Start time, completion time, and duration for the entire Project and for major Project phases, including all design milestones.

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2. Design activities shall at a minimum identify each phase of the design work as well as each subconsultants work.
3. Construction activities shall be coded to reflect each specification section, each trade, each work area, and building. Treat submittal fabrication, deliver, installation and startup as separate activities for each trade and type of work.
4. Procurement of any materials critical for the performance of specific activities.
5. Submittal dates and times for review and approval of submittals by the Owner.
6. Dates for obtaining Governmental Approvals for which the Design-Builder is responsible.

25.2 Updates. The Project Schedule shall be updated monthly by Design-Builder and provided to Owner two (2) print-out copies and one (1) CD copy to keep it advised of progress and significant changes to Design-Builder's schedule. Failure to provide such updates shall be grounds for Owner to withhold approval for all or part of Design-Builder's invoices until such time Design-Builder furnishes such updates. If any updated schedule shows a change in the logic of the critical path from that established in the preceding schedule, Design-Builder shall provide an explanation for such change. If Owner disagrees with Design-Builder's explanation by notifying Design-Builder to such effect and if such disagreement is not subsequently resolved, then such schedule shall not be considered binding for purposes of computing schedule adjustments under Article 10 hereof.

25.3 Recovery Schedule. In the event any activity on the critical path differs by more than 15 days from the stated late start date on an approved schedule, the Design-Builder shall submit a "Recovery Schedule" within 5 days of discovery of difference in the schedule. The Recovery Schedule shall include full details of how the Design-Builder intends to recover lost time within thirty days, including additional resources, shifts, or other measures that the Design-Builder proposes to employ. Owner may withhold progress payments until an acceptable Recovery Schedule is submitted and approved by the Owner. All costs incurred by the Design-Builder in preparing and achieving the Recovery Schedule shall be borne by the Design-Builder and shall not result in a change to the Contract Sum.

25.4 Schedule Format. Design-Builder shall use an electronic scheduling program for all Project Schedules and shall provide to Owner two (2) print-out copies and one (1) CD copy of the original Project Schedule and each updated Project Schedule. Design-Builder shall also provide two (2) licenses from the scheduling program to Owner to enable it to access and analyze all such schedules.

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25.5 Weekly Interval Schedules. Design-Builder shall provide a short interval schedule at each of the weekly progress meeting. The short interval schedules shall be 4-weeks in duration showing actual progress 1 week prior to the progress meeting and 3 weeks of start and completion dates for proposed progress as related to the Project Schedule.

25.6 Other Information and Alteration. Design-Builder shall, whenever required by Owner, provide in writing a general description of the arrangements and methods which Design-Builder proposes to adopt for the execution of the Work. No significant alteration to the Project Schedule, or to such arrangements and methods, shall be made without informing Owner and any alterations made shall reflect the requirement for coordination of the Work with the actions and obligations of Owner and the work to be carried out by Owner's Separate Contractors. If any alteration affects any such actions, obligations or Work, it shall not be made without the prior approval of Owner. If the progress of the Work does not conform to the Project Schedule, Owner may instruct Design-Builder to revise the Project Schedule, showing the modifications necessary to achieve completion within the Guaranteed Completion Date(s).

25.7 Owner's Separate Contractors. Design-Builder agrees to include the activities of Owner's Separate Contractors into the Project Schedule. Design-Builder shall reasonably cooperate with Owner's Separate Contractors and coordinate its activities with those of such contractors so that the Project can be completed in an orderly and coordinated manner without unreasonable disruption.

25.8 Owner's Review and Approval of Project Schedule. Owner's review and approval of the Project Schedule shall not be construed as relieving Design-Builder of its complete and exclusive control and responsibility over the means, methods, sequences and techniques for executing the Work and does not constitute approval or acceptance of Design-Builder's ability to complete the Work within the Guaranteed Completion Date(s).

25.9 Monthly Reports. Monthly reports shall be prepared by Design-Builder and submitted to Owner in six (6) copies. The first report shall cover the period up to the end of the calendar month after that in which the effective date occurred; reports shall be submitted monthly thereafter, on or before the tenth (10th) working day of each month. Reporting shall continue until Owner's Acceptance of the Final Completion Certificate. Each report shall include:

- (1) Photographs and detailed descriptions of progress, including each stage of design, procurement, manufacture, delivery to Site, construction, erection, testing and commissioning;

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- (2) Charts showing the status of all design documents, purchase orders, manufacturing and construction;
- (3) For the manufacture of each item of Equipment and Materials, the name of manufacturer, manufacture location, percentage progress, and the actual or expected dates of commencement of manufacture, Design-Builder's inspections, tests and delivery,
- (4) Records of personnel and Design-Builder's equipment on Site;
- (5) Copies of quality assurance documents, test results and certificates of Equipment and Materials;
- (6) Safety statistics, including details of any hazardous incidents and activities relating to environmental aspects and public relations;
- (7) Two (2) print-out copies and one (1) CD copy of the monthly updates to the Project Schedule, including but not limited to: (a) comparisons of actual and planned progress; (b) details of any aspects of the Work which may jeopardize the completion in accordance with the Contract Documents; and (c) measures being (or to be) adopted to overcome such aspects; and
- (8) Unresolved claims or disputes that involve requests for extension to the Guaranteed Completion Date(s) or adjustment to any other date or milestone set forth in the Contract Documents or increases in the Contract Sum.

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ARTICLE 26 VALUE ENGINEERING

26.1 Value Engineering Change Proposal (“VECP”). A VECP is a proposal developed and documented by Design-Builder which: (a) would modify or require a change in a requirement of any Contract Document; and (b) reduces the cost of the Project without impairing essential functions or characteristics of the facility (including service life, economy of operation, ease of maintenance, desirability and safety) as determined by Owner, in its sole discretion, and provided that it is not based solely upon a change in quantities.

26.2 Required Information. If Design-Builder is interested in developing and submitting a VECP, it shall, at its own expense, provide the following information to Owner with each VECP:

- (1) A statement that the submission is a VECP, and a narrative description of the proposed change;
- (2) A description of the existing requirements under the Contract Documents that are involved in the proposed change;
- (3) A discussion of the differences between existing requirements and the proposed change, together with advantages and disadvantages of each changed item;
- (4) An itemization of the requirements of the Contract Documents (with reference to specific sections) that must be changed if the VECP is approved;
- (5) The justification for changes in function or characteristics of each item, and the effect of the change on the performance of the end item, as well as on the meeting of requirements contained in the Contract Documents;
- (6) The date by which a Change Order adopting the VECP must be issued in order to obtain the maximum cost reduction, noting any effect on the Project Schedule or in the Guaranteed Completion Date(s);
- (7) A complete cost analysis including: (a) a cost estimate for the existing requirements under the Contract Documents compared to Design-Builder's cost estimate of the proposed changes; and (b) an estimate of any additional costs that will be incurred by Owner;
- (8) Costs of development and implementation of the VECP by Design-Builder; and

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- (9) Any additional information requested by Owner.

26.3 Owner's Action on a VECP

26.3.1 Owner's Processing of VECP. Upon receipt of a VECP, Owner will process it expeditiously, provided, however, that if Owner determines that a VECP requires excessive time or costs for review, evaluation or investigations, or are not consistent with Owner's design policies and basic design criteria, then Owner shall have the right to reject the VECP without any review. Design-Builder may withdraw all or part of any VECP at any time prior to any action by Owner. Owner shall bear its own costs in connection with the review and processing of a VECP.

26.3.2 Owner's Approval or Rejection of a VECP. Owner may approve in whole or in part, by Change Order, any VECP submitted. Until a Change Order is issued on a VECP, Design-Builder shall remain obligated to perform in accordance with the Contract Documents. The decision of Owner as to the rejection or approval of any VECP shall be at the sole discretion of Owner, shall be final and shall not be subject to any further dispute resolution or appeal.

26.3.3 Liability. Owner shall not be liable for any delay in acting upon any proposal submitted pursuant to this Article 26, and Design-Builder shall have no claim for any additional costs or delays resulting from the rejection of a VECP, including development costs, loss of anticipated profits or increased material or labor costs. If a VECP is approved, Design-Builder bears full responsibility for all aspects of the VECP, including but not limited to the ability of the changed design to meet all requirements of the Contract Documents (as may be modified by the VECP).

26.4 Compensation to Design-Builder for VECP. Design-Builder may receive up to fifty percent (50%) of the savings associated with implementing a VECP, as such savings and amount may be ultimately agreed upon by the parties in negotiations over the Change Order implementing the VECP.

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ARTICLE 27 MISCELLANEOUS

27.1 Validity and Enforceability. The invalidity or unenforceability of any portion or provision of the Contract Documents shall not affect the validity or enforceability of any other portion or provision. Any invalid or unenforceable portion or provision shall be deemed severed from the Contract Documents, and the balance of the Contract Documents shall be construed and enforced as if the Contract Documents did not contain such invalid or unenforceable portion or provision. Notwithstanding the provisions of the preceding sentence, should any term or provision of the Contract Documents be found invalid by any Governmental Unit having jurisdiction thereof, the Parties shall immediately renegotiate in good faith such term or provision of the Contract Documents to eliminate such invalidity.

27.2 Governing Law. This Agreement shall be governed by and construed in accordance with the internal laws of the State of Washington.

27.3 Waiver. The waiver of any breach or failure to enforce any of the terms, covenants or conditions of the Contract Documents shall not in any way affect, limit, modify or waive the future enforcement of such terms, covenants or conditions.

27.4 Successors and Assigns. Owner and Design-Builder respectively bind themselves, their partners, successors, assigns, and legal representatives to the other party hereto and to partners, successors, assigns, and legal representatives of such other party in respect to covenants, agreements, and obligations contained in the Contract Documents. Neither party shall assign the Work without written consent of the other, except that Design-Builder may assign the Work for security purposes, to a bank or lending institution authorized to do business in the State of Washington. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations set forth in the Contract Documents.

27.5 Ethics in Public Service. Design Builder shall ensure that its owner(s) and employees, and those of its Subcontractors, comply with the Ethics in Public Service Act RCW Ch. 42.52, which, among other things, prohibits state employees from having an economic interest in any public works contract that was made by, or supervised by, that employee. Design-Builder shall remove or cause to be removed, at its sole cost and expense, any of its employees, or the employees of any Subcontractor, if they are in violation of this act.

27.6 Third-Party Beneficiaries. Except with respect to indemnification obligations contained herein in favor of third parties, the provisions of this Agreement are intended for the sole benefit of Owner and Design-Builder, and there are no third-party beneficiaries other than assignees contemplated by the terms herein; provided, that Design-Builder's Subcontractors shall be entitled to the benefit of, and enforce, the

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provisions of this Agreement providing for waiver of rights or claims against, and release or limitation of liability of, such Subcontractors.

27.7 Non-Discrimination. Discrimination in all phases of employment is prohibited by, among other laws and regulations, Title VII of the Civil Rights Act of 1964, the Vietnam Era Veterans Readjustment Act of 1974, sections 503 and 504 of the Vocational Rehabilitation Act of 1973, the Equal Employment Act of 1972, the Age Discrimination Act of 1967, the Americans with Disabilities Act of 1990, the Civil Rights Act of 1991, Presidential Executive Order 11246, Executive Order 11375, the Washington State Law Against Discrimination, RCW Ch. 49.60, and Gubernatorial Executive Order 85-09. These laws and regulations establish minimum requirements for affirmative action and fair employment practices which Design-Builder must meet. Design-Builder shall not discriminate against any employee or applicant for employment because of race, creed, color, national origin, sex, age, marital status, or the presence of any physical, sensory, or mental disability, Vietnam era veteran status, or disabled veteran status, nor commit any other unfair practices as defined in RCW Ch. 49.60.

27.8 Rights and Remedies. No action or failure to act by Owner shall constitute a waiver of a right or duty afforded Owner under the Contract Documents, nor shall such action or failure to act constitute approval of an acquiescence in a breach therein, except as may be specifically agreed in writing.

27.9 Time Computations. When computing any period of time, the day of the event from which the period of time begins shall not be counted. The last day is counted unless it falls on a weekend or legal holiday, in which event the period runs until the end of the next day that is not a weekend or holiday. When the period of time allowed is less than seven (7) days, intermediate Saturdays, Sundays, and legal holidays are excluded from the computation.

27.10 Records Retention. The wage, payroll, and cost records of Design-Builder, and its Subcontractors, and all records subject to audit in accordance with Section 11.6.1 above, shall be retained for a period of not less than six (6) years after the date of Final Acceptance.

27.11 Antitrust Assignment. Owner and Design-Builder recognize that in actual economic practice, overcharges resulting from antitrust violations are in fact usually borne by the purchaser. Therefore, Design-Builder hereby assigns to Owner any and all claims for such overcharges as to goods, materials, and equipment purchased in connection with the Work performed in accordance with the Contract Documents, except as to overcharges which result from antitrust violations commencing after the Contract Sum is established and which are not passed on to Owner under a Change Order. Design-Builder shall put a similar clause in its Subcontracts, and require a similar clause in its sub-Subcontracts, such that all claims for such overcharges on the Work are passed to Owner by Design-Builder.

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IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed as of the date and the year first above written.

STATE OF WASHINGTON DEPARTMENT OF
TRANSPORTATION

By: _____
Name:
Title:

DESIGN-BUILDER

By: _____
Name:
Title:

B. Contract Forms and Exhibits

Contract forms and exhibits referenced in the Design Build Agreement can be found in the following pages of this RFP:

- 1) [Design Document Requirements](#)
- 2) [Performance Bond Form](#)
- 3) [Apprenticeship Agreement](#)
- 4) [Dispute Review Board Three Party Agreement](#)

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DESIGN DOCUMENT REQUIREMENTS FOR DESIGN-BUILD AGREEMENT

This Attachment lists the documents to be provided by the Design-Builder to the extent that the items of work to which the documents are related are included in the Design-Build Agreement and the Olympic Region Headquarters RFP. This list is not all inclusive nor is it limited to any items referred to or implied in other parts of the Agreement.

ITEM	SCHEMATIC PHASE	DESIGN DEVELOPMENT PHASE	<i>*CONSTRUCTION DOCUMENT PHASE</i>
Specification	System and Material Narrative Description	Outline Specification	Complete Specification
Site	Existing conditions Site footprints Site entrance Timber removal Site utilities Utility requirements Roads and driveways Loading dock location Future expansion Walkway locations Stairway locations Parking locations Waste/recycle collection locations	Pedestrian circulation Utility details Dimensions Traffic flow plan Handicapped flow plan Lighting plan Stairway connections Waste containers Bicycle facilities Site drainage Site utilities Reference elevations	Pipe sizes Connection details Contractor parking Construction area Construction phasing Site development phasing Street use plan
Landscaping	Existing conditions Irrigation legend	Irrigation plan Planting plan	Soil preparation and planting specification Pipe sizes Piping diagrams Design calculations Guying details Existing tree protection
Building Exterior Envelope	Typical elevations Building cross sections Fenestration layout Material designations Energy code requirements Roof layout	Typical wall sections Typical window details Exterior door details Roof & drainage plan Parapet & coping details (typ.)	Flashing details Roof mounted equipment Exterior details Roof details
Structural	Structural scheme Written description including seismic analysis of existing bldg. & proposed strengthening techniques Structural legend	Structural sections Typical floor framing plan Main member sizing Foundation plan	Structural details Foundation details Beam & column schedules Structural notes Calculations

ITEM	SCHEMATIC PHASE	DESIGN DEVELOPMENT PHASE	CONSTRUCTION DOCUMENT PHASE
Building Interior	Typical floor plans (min. 1/16" scale) Area use identification and area in sq. ft. Janitor closet(s) location (s) Circulation paths Preliminary layouts of major specialized spaces Show flexibility for expansion and alterations All room numbers Area tabulations compared to program requirements Code study: exiting, area separation, etc. Mechanical, electrical and other service rooms	All floor plans (min. 1/8" scale) Partition types Fixed seating Wall types Equipment and furniture layouts Vertical shaft locations Specialized area floor plans min 1/4" scale	Dimensioned floor plans Finish schedules Door & hardware schedules Interior elevations Reflected ceiling plans Partition details Interior details
Elevators	Elevator location Equipment room location Elevator legend	Elevator shaft section Equipment description	Dimensioned plans Complete specification Door and frame details Interior details with lighting
Plumbing & Piping	Location of header(s) Location of pipe chases Fixture locations Mechanical legend	Water header diagram Chilled water header diagram Steam header diagram Piping plans Fixture list Material cut sheets	Pipe sizes Radiation riser diagram Plumbing riser diagram Water header diagram Chilled water riser diagram Coil detail Convector detail Water heater detail Design calculations
HVAC	Identify all systems One line flow diagrams Energy code requirements Special occupancy zones Mechanical legend Air intake & exhaust location(s)	Preliminary calculations One line duct layout Equipment list Equipment location Control diagram Sequence of operation Mechanical room layout Utility shaft layout & sections Equipment cut sheets	Equipment details Duct sizes Installation detail Cross sections Connection to FA & MCC Design calculations
Fire Protection (Mechanical)	Connection to utility Location of sprinkler valve Sprinkler legend	Riser diagram One line layout	Complete specifications Sprinkler valve details Design calculations

ITEM	SCHEMATIC PHASE	DESIGN DEVELOPMENT PHASE	CONSTRUCTION DOCUMENT PHASE
Lighting	Typical spaces w/foot candles Energy code requirements	Fixture/switching layout Light level calculations Fixture types Lighting cut sheets	Fixture schedule Control diagrams Installation details Lighting calculations Final energy code calculations
Electric Power Distribution	One line service diagram Electric vault location(s) Electric closet location(s) Electric legend	Equipment layout Panel location(s) One line power diagram Receptacle locations	Panel schedules Load calculations Fault current calculations MCC details Branch circuit details
Fire Alarm	Connection for monitoring Panel location	Fire alarm zones Smoke zones Device locations Riser diagram	Connection details Connection to MCC & HVAC Riser diagram
Telecommuni- cations	Building & local distribution Frame closet locations & size Cable tray locations Backboard Locations	Riser diagram(s) Material cut sheets Voice/data outlet locations Device cut sheets Assisted listening equipment	Raceway plan(s) Raceway details
Service Facilities	Loading dock Service elevator Service road	Waste containers Recycle holding Bottled gas area Any special waste handling Service vehicle parking area	Details for all accessory and support apparatus in each area
Universal Design/ADA	Accessible locations Restrooms Accessibility design review Common entrance for all	Ramped access Same path of travel between buildings	Details for all associated accessories and provisions
Commissioning		Documentation of design criteria and assumptions One-line diagrams Calculations System zoning Sequences of operation	Production of the document required <i>in accordance with Owner's Requirements</i>
Sustainable Design	Eco-Charette LEED Scorecard Summary of sustainable design strategies used to meet green building goals	LEED Scorecard Summary of sustainable design strategies used to meet green building goals	LEED Scorecard Summary of sustainable design strategies used to meet green building goals

**Documents listed under the Construction Document Phase are included as a guide to the State's normal expectations, but may be adjusted to meet the project delivery needs of the Design-Builder.*

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CONTRACT BOND

**Washington State Department of Transportation
Design-Build Request for Proposals
Olympic Region HQ Replacement Project**

No. _____

WHEREAS, the State of Washington by and through the Washington State Department of Transportation (“Obligee”), has awarded to (“Principal”), a contract for the Olympic Region HQ Replacement Project

Design-Build Project dated _____ (the “Contract”); and

WHEREAS, Principal is required to furnish a bond guaranteeing the faithful performance of its obligations and payment of claims under the Contract Documents execution and deliver of the Contract by the Obligee.

NOW, THEREFORE, Principal and _____, a _____
_____ (“Surety”), and admitted surety insurer in the State of Washington, are held and firmly bound unto Obligee in the amount of \$26,000,000 (“Bonded Sum”), for payment of which sum Principal and Surety jointly and severally firmly bind themselves and their successors and assigns.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT, if Principal shall promptly and faithfully perform all of its obligations under the Contract Documents, including any and all amendments, change orders, and supplements thereto, and if Principal shall pay the lawful claims of all persons or entities performing services in connection with, or providing equipment, materials or other chattels related to, Principal’s performance of its obligations under the Contract Documents, then this obligation shall be null and void; otherwise it shall remain in full force and effect. The following terms and conditions shall apply with respect to this bond:

1. The Contract Documents (as defined in the Contract) are incorporated by reference herein.
2. Except as specifically provided herein, this Bond specifically guarantees the performance of each and every obligation of Principal under the Contract Documents, as they may be amended and supplemented, including but not limited to its liability for Liquidated Damages and Warranties as specified in the Contract Documents, but not to exceed the Bonded Sum.
3. This Bond shall not cover errors or omissions in the design documents supplied by Principal in accordance the Contract Documents.
4. The guarantees contained herein shall survive Completion and Final Acceptance of the Contract with respect to those obligations of Principal which survive Completion and Final Acceptance.

5. Whenever Principal shall be, and is declared by Obligee to be, in default under the Contract Documents, provided that Obligee is not then in material default thereunder, Surety shall promptly:
- a. Remedy such default;
 - b. Pay the lawful claims of all persons or entities performing services in connection with, or providing equipment, materials or other chattels related to, Principal's performance of its obligations under the Contract Documents;
 - c. Complete the Project in accordance with the terms and conditions of the Contract Documents then in effect.
6. No alteration, modification or supplement to the Contract Documents or the nature of the work to be performed thereunder, including without limitation any extension of time for performance, shall in any way affect the obligations of Surety under this Bond. Surety waives notice of any alternation, modification, supplement or extension of time.
7. Correspondence or claims relating to this bond should be sent to Surety at the following address:
- _____
- _____
- _____
- _____
8. No right of action shall accrue on this bond to or for the use of any entity other than Obligee or its successors and assigns.

IN WITNESS WHEREOF, Principal and Surety have caused this Bond to be executed and delivered as of _____, 2006.

_____(seal)

SURETY

_____(seal)

PRINCIPAL

By: _____

Print Name: _____

Print Title: _____

(Attach Power of Attorney)

Witness: _____

By: _____

Print Name: _____

Print Title: _____

Witness: _____

STATEMENT OF APPRENTICE/JOURNEYMAN PARTICIPATION

Firm Name, Address, City, State & ZIP+4 contractor firm name street address city, state, and zip	Project Name (Title) name of project	Contract No. number
	Contract Award Amount: \$	Notice to Proceed Date date
Reporting Period from: beginning date to end date		Required Apprenticeship Percentage: 15%

APPRENTICE SUMMARY

Apprentice Name	Craft or Trade	Apprentice Registration Number	Name of Contractor or Sub-Contractor	Apprentice	
				Total Number	Hours Worked

JOURNEYMEN SUMMARY

	Craft or Trade		Name of Contractor or Sub-Contractor	Journeyman	
				Total Number	Hours Worked

Apprentice total hours worked this period:	0
Journeyman total hours worked this period:	0
Cumulative Apprentice hour Total brought forward from last reporting period	Previous Total previous total
Cumulative Journeymen hour Total brought forward from last reporting period	New Total #VALUE! #VALUE!
	Percentage #VALUE!

I, the undersigned, do hereby certify under penalty of perjury that the items listed herein represent the proper hourly totals for Apprenticeship/Journeyman participation during this reporting period.

Printed Name: _____ Signature: _____ Date: _____ Title: _____

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DISPUTE REVIEW BOARD
THREE-PARTY AGREEMENT

I PARTIES

- A. _____, herein after referred to as the OWNER.
- B. _____, herein after referred to as the DESIGN-BUILDER.
- C. Dispute Review Board, hereinafter referred to as the DRB/Board, consisting of three members:
1. _____
 2. _____
 3. _____

II CONTRACT

- A. The DESIGN-BUILDER has entered into a prime contract (Contract) with the OWNER for the construction of the _____ [Project Name], hereinafter referred to as the Project.
- B. The Contract provides for the establishment and operation of a DRB to assist in resolving disputes.
- C. The DRB is composed of three members, selected in accordance with Part 7.04 the Contract Special Conditions, (the DRB Specification).

III PURPOSE OF DRB

- A. Assist in and facilitate the timely and impartial resolution of disputes that are referred to it.
- B. Perform the necessary services with the full cooperation of the OWNER and the DESIGN-BUILDER in accordance with requirements specified herein.

IV DRB SCOPE OF WORK

- A. General:
1. Stay abreast of Project developments by means of periodic site visits and meetings, review of progress reports, meeting minutes, and other job documents, and by other means as mutually agreed by all parties.
 2. Examine site conditions or specific construction problems relating to an existing or potential dispute, unless such examination is not practical, or, in the judgment of either the OWNER or the DESIGN-BUILDER, would result in a delay to the Project.
- B. Establish DRB operating procedures consistent with the requirements and general guidelines set forth in the Contract DRB Specifications:
1. Establish operating procedures mutually agreeable to all parties, such as administrative duties; content and format of information which may

be presented at DRB hearings; conduct of hearings; and invoicing details. Establish these procedures at the first meeting with representatives of the OWNER and the DESIGN-BUILDER and execute this agreement.

2. Initiate new procedures or modify existing procedures as mutually agreed to by all parties.
3. Provide all parties with these operating procedures, including all modified procedures, in written form.

C. Recommend Resolution of Disputes

1. Upon receipt by the DRB of a referral of a dispute from either the OWNER or DESIGN-BUILDER, schedule and conduct a hearing at a time and location set by the DRB following consultation with the OWNER or DESIGN-BUILDER.
2. When proper evaluation of the dispute requires expertise that is not within the collective experience of the DRB, engage, with the prior written approval of the OWNER and the DESIGN-BUILDER, the services of one or more outside consultants as may be needed to advise the DRB.
3. Convene internal meetings as needed to review and discuss the dispute, and to formulate the report.
4. Following each hearing and Board deliberation, issue timely executed written reports to the OWNER and the DESIGN-BUILDER, including the supporting rationale.
5. When requested and deemed appropriate by the DRB, provide executed written responses to requests for clarification or reconsideration made by either the OWNER or the DESIGN-BUILDER.
6. All DRB reports and responses to requests for clarification or reconsideration shall be signed by all three Board members.

- D. Perform services and assume responsibilities, as agreed by all parties, as may be required, but not listed herein, to achieve the purpose of this agreement.

V RESPONSIBILITIES OF THE PARTIES

A. DRB Responsibilities:

1. Maintain impartiality and avoid conflicts of interest by continuing to meet the specified requirements for nominees for Board members. Promptly advise all parties upon becoming aware of any development that could be construed as a conflict of interest.
2. Do not discuss, individually or collectively, issues with the OWNER or the DESIGN-BUILDER that could possibly be construed as compromising the DRB's ability to impartially resolve future disputes, such as the conduct of the work and the resolution of construction problems.

3. Do not express an individual or collective opinion of merit, in whole or in part, for any potential or other dispute at any time prior to the issue of a report, except in the case of an advisory opinion.
4. Except as required when performing the duties of the Chair or conducting a hearing which the OWNER or DESIGN-BUILDER refuses to attend, do not meet or communicate with either the OWNER or DESIGN-BUILDER in the absence of the other.
5. Consider the facts and conditions forming the basis for a referred dispute impartially, and independently and evaluate the merits based on careful consideration of all Contract requirements, applicable law and regulations, and the facts and circumstances of the dispute. Do not:
 - a. Ignore or undermine the clear intent of the Contract, or disregard or alter any requirements of the Contract or allocation of risk specified therein.
 - b. Supplant or otherwise interfere with the respective rights, authority, duties, and obligations of either the OWNER or DESIGN-BUILDER as set forth in the Contract Documents.
6. Make every effort to reach unanimous recommendations. If this cannot be accomplished, include written minority recommendations and supporting rationale with the report.

B. OWNER Responsibilities:

1. Except for participation in the DRB's activities as provided in the Contract Documents and this agreement, do not solicit advice or consultation from the DRB or its members on matters dealing with the conduct of the work or resolution of problems which might compromise the DRB's ability to impartially resolve future disputes.
2. Furnish to each Board member one copy of the conformed Contract Documents, progress schedule and updates, weekly progress reports, minutes of progress meetings with the DESIGN-BUILDER, change orders, and other documents pertinent to the performance of the Contract and necessary for the DRB to conduct its operations.
3. Coordinate DRB operations in cooperation with the DESIGN-BUILDER.
4. Arrange for or provide conference facilities at or near the site, and provide copying services.

C. DESIGN-BUILDER Responsibilities:

1. Except for participation in the DRB's activities as provided in the Contract Documents and this agreement, do not solicit advice or consultation from the DRB or its members on matters dealing with the conduct of the work or resolution of problems which might compromise the DRB's ability to impartially resolve future disputes.

2. Furnish to each Board member and to the OWNER, one copy of pertinent documents other than those furnished by the OWNER as may be requested.

VI TIME FOR BEGINNING AND COMPLETION OF DRB ACTIVITIES

- A. Unless the DRB Chair has been previously identified by the parties, the DRB shall begin its activities by selecting the Chair. After selection of the Chair, DRB activities shall begin with preparation for the first meeting, including preparation of the DRB operating procedures.
- B. The DRB's jurisdiction under this agreement shall end on the date of final payment under the Contract, unless terminated earlier by mutual agreement of the OWNER and DESIGN-BUILDER.

VII PAYMENT

- A. Payments made to the Board members shall constitute full compensation for work performed and services rendered, and for all materials, supplies and incidentals necessary to serve on the DRB.
- B. The OWNER will compensate directly the wages and travel expenses for its selected member at the rates agreed to between the OWNER and Board Member under separate agreement.
- C. The DESIGN-BUILDER shall compensate directly the wages and travel expenses for its selected member at the rates agreed to between the DESIGN-BUILDER and Board Member under separate agreement.
- D. The OWNER and DESIGN-BUILDER shall share equally in the third member's wages and travel expense, and all of the operating expenses of the Board. These equally shared expenses shall be billed to and paid by the OWNER. The DESIGN-BUILDER'S share will be deducted from monies due or coming due the DESIGN-BUILDER.
- E. Payment for services rendered by the third member shall be at the daily billing rate of \$____(TBD)_____. This daily rate includes all direct labors costs, overhead and profit. Subsequent changes in the billing rate must be authorized by a supplemental agreement to this Agreement.
- E. The third member shall be reimbursed for travel expenses at standard state of Washington rates for transportation, lodging, and meals for each day, or portion thereof, that the member is traveling to or from, or attending, an authorized DRB activity. All allowable miscellaneous expenses will be reimbursed at actual cost.
- F. The third member shall submit invoices for work completed to the OWNER:
 1. Not more often than once per month.
 2. Based on the agreed billing rate and conditions and on the number of hours expended, together with direct, non-salary expenses including an itemized listing supported by copies of original bills, invoices, and expense accounts.

3. Accompanied by a description of activities performed daily during that period.
- G. Payment made to Board members in the form of bonus, commission, or consideration of any nature other than that specified hereinabove for performance and service provided under this agreement, before, during or after the period that this agreement is in effect, is prohibited.

VIII CONFIDENTIALITY AND RECORDKEEPING

- A. No Board member shall divulge information identified as confidential that has been acquired during DRB activities without obtaining prior written approval from the OWNER and the DESIGN-BUILDER.
- B. Board members shall maintain cost records pertaining to this agreement for inspection by the OWNER or the DESIGN-BUILDER for a period of three years following the end or termination of this agreement.

IX ASSIGNMENT

No party to this agreement shall assign any duty established under this agreement.

X. TERMINATION

- A. Board members may withdraw from the Board by providing thirty (30) calendar days' written notice to the other parties.
- B. OWNER and DESIGN-BUILDER may terminate the services of the member they selected.
- C. The third member's services may be terminated by agreement of the other two members or the agreement of the OWNER and DESIGN-BUILDER.
- D. If a Board member resigns, is unable to serve, or is terminated he or she shall be replaced within four (4) weeks in the same manner as he or she was originally selected. This agreement shall be amended to indicate the member replacement.

XI LEGAL RELATIONS

- A. The parties to this agreement expressly acknowledge that each Board member, in the performance of his or her duties on the DRB, is acting in the capacity of an independent agent and not as an employee of the OWNER or the DESIGN-BUILDER.
- B. It is expressly understood that DRB recommendations are non-binding.
- C. Board members shall not participate in subsequent dispute proceedings.
- D. The OWNER and the DESIGN-BUILDER acknowledge that each Board member is acting in a capacity intended to facilitate the resolution of disputes. Accordingly, it is agreed and acknowledged that, to the fullest extent permitted by law, each Board member shall be accorded quasi-judicial immunity for any actions or decisions associated with DRB activities.

- E. Each Board member shall be held harmless for any personal or professional liability arising from or related to DRB activities. To the fullest extent permitted by law, the OWNER and the DESIGN-BUILDER shall indemnify and hold harmless all Board members for claims, losses, demands, costs, and damages (including reasonable attorney fees) for bodily injury, property damage, or economic loss arising out of or related to Board members carrying out DRB activities.

XII DISPUTES REGARDING THIS THREE-PARTY AGREEMENT

- A. Disputes among the parties arising out of this agreement that cannot be resolved by negotiation and mutual concurrence and actions to enforce any right or obligation under this agreement shall be initiated in the Superior Court of Thurston County, Washington.
- B. All questions shall be resolved by application of law of the State of Washington.
- C. The Board members hereby consent to the personal jurisdiction of the Superior Court of Thurston County, Washington.

XIII THREE-PARTY AGREEMENT

Entered into on _____, _____, _____ between:
(month) (day) (year)

BOARD MEMBERS

By: _____
(Signature) (Name)

By: _____
(Signature) (Name)

By: _____
(Signature) (Name)

DESIGN-BUILDER

OWNER

By: _____
(Signature)

By: _____
(Signature)

By: _____
(Name)

By: _____
(Name)

Title: _____

Title: _____

Section III

Proposal Requirements

Section III—Proposal Requirements

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Section III--Proposal Requirements

1. General Information

1. General Information

A. Examination of RFP Documents and Site:

- 1) **Proposer Responsibility:** It is the responsibility of each Proposer, before submitting a proposal, to:
 - a. Examine thoroughly the RFP documents, including all information furnished by the State;
 - b. Visit the site to become familiar with and satisfy the Proposer as to the general, local, and site conditions that may affect cost, progress, or performance of the work.
 - c. Consider and comply with federal, state, and local laws and regulations that may affect cost, progress, and performance of the work;
 - d. Study and carefully correlate the Proposer's knowledge and observations with the RFP documents and other related data;
 - e. Promptly notify the State of any conflicts, errors, ambiguities, and discrepancies which the proposer has discovered in the RFP documents.

B. Briefings Schedule and Location:

- 1) **Briefings:** Representatives of the State will be present to discuss the project.
 - a. WSDOT will transmit to all registered RFP holders of record such Addenda as the State considers necessary in response to questions arising at the briefing.
 - b. Oral statements made by the State's staff or consultants at briefings may not be relied upon and will not be binding or legally effective.
 - c. Questions and statements deemed by the State to be appropriate and relevant to the RFP will be answered in an Addendum to the RFP.
 - d. Inappropriate Contact: Any inappropriate contact between the Design-Build Team and the State's Team can result in disqualification; be sure to comply with "Communications Requirements and Limitations" (Section III—2.E).
- 2) **Briefings Schedule and Location: General Administration Building, 210 SW 11th Ave, Olympia, WA in Room 207.**

<u>Date of Briefing</u>	<u>Time</u>	<u>Location</u>
Phase I:		
April 14, 2006	9:00AM	GA BLD RM 207
April 14, 2006	1:00 PM	GA BLD RM 207

Section III--Proposal Requirements

1. General Information

Phase II Briefing:

May 31, 2006	9:00AM	GA BLD RM 207
May 31, 2006	1:00 PM	GA BLD RM 207

C. Questions: All questions about the meaning or intent of the RFP must be in writing and directed to the Contact Person at the address indicated in Project Information Summary, Section I-1.E.

1) Receipt of Addenda: At submittal, all proposers must acknowledge that they have received all of the Addenda as part of their submittal documents.

D. Access to Site: Upon written request, the State will provide each Proposer access to the site to conduct their own independent examinations, investigations, borings, explorations, tests, and studies as necessary for submission of a Proposal. When complete, the proposer must fill all holes and clean up and restore the site to its former condition.

E. Availability of Site for Work: The site for this Project, rights-of-way and easements for access, and other areas designated for use by Design-Builder in performing the work are identified in the Contract Documents.

1) Any additional land or areas required for temporary construction facilities, construction equipment, or storage of materials and equipment for this Project are to be obtained and paid for by Design-Builder.

F. Supplemental Investigations: proposers will be responsible for obtaining any supplementary information required for their proposal that is not provided by State.

1) Independent Investigations: Before submitting proposals, proposers will be responsible for obtaining, at its own expense, any independent analyses, supplementary examinations, investigations, tests, studies, or data concerning surface, subsurface, and underground facilities at or near the site which may affect cost, predicted seismic response or performance of the proposed work, or which the proposers find necessary to prepare their proposals.

a. Collaboration Allowed: Proposers may collaborate with each other for purposes of sharing the costs of such analyses.

b. Proposers Responsibility: Obtaining information from test borings, test pits, soil bearing values, percolation test, air and water pollution test, ground corrosion and receptivity tests and water conditions, is the sole responsibility of the Design-Builder's geotechnical engineers.

Section III--Proposal Requirements

1. General Information

2) Information Relating to Existing Surface and Subsurface Conditions:

The State has identified certain reports, summary findings, maps and/or tests, which have been utilized in preparation of the RFP documents (see Section VII--Attachments).

- a. Geotechnical Tests:** The State has conducted preliminary soils tests and copies of the results are provided to the Proposers for information purposes only. They are not intended to be used as the basis for any design or construction work. The State makes no representations concerning the results of the tests nor can it attest to the accuracy or validity of the tests or their results.
- b. Proposer Assumes Responsibility:** The Proposer assumes full responsibility if it relies on the accuracy of the factual technical data contained in such reports or upon other data, interpretations, recommendations or opinions contained in such reports for the purposes of preparing its proposal, for design, or for construction.
- c. Contract Documents:** Reports and maps included in the RFP documents are Contract Documents; however the proposer is responsible for any interpretation or conclusion it may have drawn from such reports.

G. All Materials Become Property of State: All materials submitted will become the property of the State.

H. Reserve Right To Publish and Display Exhibits: The State reserves the right to publish or display publicly all proposals.

I. Reserved Proprietary Rights: Proposers may selectively indicate those sections of their proposals that must be considered proprietary.

- 1)** Each page of a proprietary section must be stamped or clearly labeled as proprietary.
- 2)** Indicating material as Proprietary creates significant increases to the complexity of the selection team's evaluation processes; so it should be used sparingly.

J. No Compensation for Phase I RFP Proposers: There will be NO compensation for Phase I RFP proposers. Phase I RFP proposers assume all responsibility for costs, expenses and risks associated with their proposals.

K. Honorarium for Unsuccessful Phase II RFP Proposers: There will be an honorarium of \$80,000 paid to unsuccessful Phase II RFP proposers to partially compensate them for the expenses of their proposals. There will be NO compensation for Phase II RFP proposers beyond the honorarium; aside from the honorarium, Phase II RFP proposers assume all responsibility for costs, expenses and risks associated with their proposals.

Section III--Proposal Requirements

1. General Information

L. Disqualification: Any proposer may be disqualified due to breach of proposal procedures. This may result in forfeiture of proposal Security.

- 1)** Proposals may not be modified after submission; withdrawal of proposal after submission will result in forfeiture of proposal Security.
 - a. Exception: modifications to Proposals may be allowed as part of the final step in the selection process, Pre-Award Conference (see Section III-2.D).

M. Execution of Agreement: Notice of Award will be accompanied by the required number of unsigned copies of the Agreement with all other written Contract Documents attached. The proposer shall sign and deliver the required number of copies of the Agreement and attached documents to the State with the required Contract Security and Certificates of Insurance.

- 1)** If the successful proposer fails to execute and deliver the Agreement and furnish the required contract security within 15 days after the Notice of Award, State may annul the Notice of Award and the proposal Security of that proposer may be forfeited.
- 2)** Within 15 days thereafter State shall return one fully signed copy to the Proposer.

N. Rights of the State

- 1)** All proposals will remain subject to acceptance for 60 days after the deadline for receipt of the proposals, but the State may, at its sole discretion, release any proposal and return the proposal security prior to that date.
 - a. The State reserves the right to reject any or all proposals, including without limitation the right to reject any or all nonconforming, non-responsive, unbalanced, or conditional proposals.

Section III—Proposal Requirements

2. Submittal Requirements

A. General Requirements

2. Submittal Requirements:

Submittal requirements and the format of submittal documents are outlined below.

A. General Requirements:

- 1) **Fully complete submittal packages required:** Proposer is responsible for submitting all required elements using the designated forms and formats. Failure to submit a complete package or to use proper forms and formats may result in disqualification of the proposal prior to any evaluation or scoring.
- 2) **Phased Submittals:** Each Phase of the RFP has its own specific submittal requirements. See the appropriate sections below for details.
 - a. **Phase I Submittal:** See Section III-B
 - b. **Phase II Submittal:** See Section III-C
 - c. **Pre-Award Submittal:** See Section III-D
- 3) **Questions:** Questions or comments concerning the RFP and the submittal process must be written and must follow the strict requirements of the “Communications Requirements and Limitations” section below (Section III-E).
 - a. Proposers, and any members or agents of the Proposer’s Team, are prohibited from discussing the RFP and the project with any member of the Executive Jury, Technical Evaluation Panel, or State’s Project Team. *Unauthorized contact during the proposal preparation and evaluation periods may result in disqualification.*

Section III—Proposal Requirements

2. Submittal Requirements

B. Phase I RFQ Submittal

B. Phase I RFQ Submittal:

1) General:

- a. **Submission:** Proposals must be enclosed in an opaque sealed envelope or box, marked with the project title and the notation “Phase I Submittal” along with the name and address of the Proposer.

i. **Deliver all Proposals at the date, time and to the address listed in Section I-1F.**

- ii. If the submission is sent through the mail or other delivery system, the sealed envelope or box must be enclosed in a separate envelope marked "PHASE I DESIGN-BUILD PROPOSAL ENCLOSED".

- iii. All Exhibits shown on the RFQ Checklist (see Section VII – 4.A.1 under Attachments) must accompany the submittal in the same envelope or box; clearly identify each separate item with the proposer's name and project title.

- *Exception: **Anonymous Submittal Item**—The Risk Assessment Plan must be included within the package in a separately sealed envelope, marked with only the project title, and must have NO indication of the firm or Design-Build Team...or it may be disqualified.*

- iv. Copies of Documents: Provide five (5) copies of all paper documents.

- CD disk: Provide one copy

- b. **Signature of Authorized Partner or Corporate Officer:** Each submittal must contain the signature of a legally authorized joint-venture partner, corporate officer, or partner. This signature must appear on the Phase I RFQ Design-Build Proposal Form

- i. Proposals by partnerships must be executed in the partnership name and signed by a partner, whose title must appear under the signature. The official address of the partnership must be shown below the signature.

- ii. Proposals by corporations must be executed in the corporate name by the president or a vice- president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation must be shown below the signature. If the proposer is an out-of-state corporation, evidence of authority to conduct business in the state where the work is to be performed must be attached.

Section III—Proposal Requirements

2. Submittal Requirements

B. Phase I RFQ Submittal

- c. **Acknowledgement of All Addenda Required:** Each submittal must contain an acknowledgement of the receipt of ALL addenda issued for the RFP. The numbers of all the addenda must be filled in the appropriate section of the Design-Build Proposal Form (Section VII – 4.A.2).
- d. **Pre-interview shortlist:** A short-list of at least 5 Proposers will be selected for interviews based upon “blind” scoring of the past performance evaluations of the Design-Build Teams, their risk analyses, and their experience.
 - i. Both successful and unsuccessful Proposers will be notified 5 days before the interviews are scheduled.
- e. **Interviews:** The interviews will be a major method for determining how well each team works together and how they may interact with the State’s team.
 - i. Separate interviews will be held for key members of each Design-Build Team, followed by an interview of the entire team as a whole.
 - The Design-Build Teams will identify to the State the key individual members they wish to participate in the individual interviews.
 - ii. Interviews will focus upon each Team’s proposed management approach, risk identification and suggested methods for mitigation.
 - iii. The Executive Jury will conduct the interviews; however Technical Evaluation Panel members may be present if requested by the Jury.

2) Submittal Letter and Forms: In addition to the submittal requirements for Past Performance Information, Risk Assessment Plan, and Bonding and Insurability detailed below, complete and submit the following Cover Letter, Checklist and Forms:

- a. **Cover Letter:** Provide a cover letter identifying:
 - The Proposer (prime), and if appropriate, the joint-venture members.
 - Identify a single project chief executive officer with full overall decision authority, who can jointly represent both the designer and contractor.
 - Identify the lead design architect, architect-of-record and the general contractor builder (if other than the Proposer).
 - Include a brief description of the legal relationship among the principal entities with regard to the project.
 - Identify a single contact person for this proposal and the relevant contact information.

Section III—Proposal Requirements

2. Submittal Requirements

B. Phase I RFQ Submittal

- b. **Phase I RFQ Checklist:** Complete and submit the Phase I RFQ Checklist (Section VII—4.A.1).
- c. **Phase I RFQ Design-Build Proposal Form:** Complete and sign the Phase I RFQ Proposal Form (Section VII—4.A.2).

3) Past Projects Information:

- a. **Past Performance Information (PPI)** will be collected on firms and their critical team components. This includes:
 - i. Design Build Firm (Firm)
 - ii. Overall Design Build Project Manager (Individual)
 - iii. Construction Project Manager (Individual)
 - iv. Lead Designer (Individual)
 - v. Mechanical Subconsultant (Individual)
 - vi. Electrical Subconsultant (Individual)
 - vii. Specialty Design/Shop Design Subconsultant (Individual)
- b. **Reference List and PPI Surveys:** Each critical team component must create a reference list and send out survey evaluations to past clients. See Attachment (Section VII—4.A.3) for detailed information on preparing a Reference List and sending out surveys. Note: The reference list (both in paper form and on CD-disk) must be included in the Phase I submittal package.
 - i. Label the CD-disk: Include the Project Name, Phase I and the Name of the Proposer.
 - ii. Format of CD-disk: Use the Microsoft Excel file format for each file in the Reference List.
- c. **Past Performance Information:** After receipt by WSDOT, all past performance evaluation forms will be submitted to an independent laboratory for summarization.
 - i. Performance Based Studies Research Group, Arizona State University, Tempe, Arizona, will create a summary report of the past performance information received from the Proposers' clients and provide it to the Executive Jury for its use in scoring/ ranking.

4) Risk Assessment Plan: (*Anonymous Item*)

Each Proposal must provide a 3 page Risk Assessment (RA) Plan. A guide to preparing the RA plan is provided in Attachment (Section VII—4.A.4). The RA Plan is an anonymous item and must not contain any names (that can be used to identify who the plan is from). The RA Plan should:

Section III—Proposal Requirements

2. Submittal Requirements

B. Phase I RFQ Submittal

- a. Identify the risk areas that are specific and unique to this project.
- b. Identify solutions to the potential risks.
- c. Indicate any value added items.

An RA Plan template is provided in the Attachment (Section VII—4.A.4). This template must be used to submit RA Plans.

5) Payment and Performance Bond and Insurability:

- a. **Bond:** Provide a letter from Proposer's surety or its agent indicating that the Proposer (not just the builder) currently has the capacity to provide performance and payment bonds up to \$26 million each.
- b. **Insurability:** Provide a letter from proposer's insurance agent that the Proposer maintains, or can acquire, insurance policies and coverages specified in the Design-Build Agreement.

Section III—Proposal Requirements

2. Submittal Requirements

C. Phase II RFP Submittal

C. Phase II RFP Submittal: Proposals must be submitted at the time and location designated in the State’s written notification letter.

1) General:

a. **Submission:** Proposals must be enclosed in an opaque sealed envelope or box, marked with the project title, the phrase “Phase II Proposal”, and the name and address of the Proposer.

i. **Phase II Proposals must be submitted by 3:00 p.m., Pacific Standard Time, August 23, 2006** and must be delivered:

- **By U.S. mail at:** Attn: Ken Walker, Post Office Box 47360, Olympia, Washington 98504 – 7360. The Department of Transportation will consider notification of proposal receipt by the Mail Room as the actual receipt of the RFP submittals.
 - **By hand in person or courier:** to the Department of Transportation Contract Ad & Award Office, Room 1A23 located at the Transportation Building, 310 Maple Park Avenue SE, Olympia WA. 98504 – 7360. RFP submittals delivered in person will be received only in the Contract Ad & Award Office Room 1A23.
 - Facsimile or electronic transmission submissions will not be accepted.
- ii. If the submission is sent through the mail or other delivery system, the sealed envelope or box must be enclosed in a separate envelope marked "PHASE II DESIGN-BUILD PROPOSAL ENCLOSED".
- iii. All Exhibits shown on the Phase II RFP Checklist (see Attachments, Section VII – 4.B.1) must accompany the submittal in the same envelope or box; clearly identify each separate item with the proposer's name and project name.
- Exception: Display boards may be delivered by hand to State’s Contact Person (see Section I—E) at the location designated by the Contact Person, under the same deadlines as the Proposal itself.
 - Exception: For RFP II Proposals, the original, signed copy of the Phase II RFP Cost Proposal, together with the original Proposal Security (Bid Bond), must be submitted separately from the other materials and the sealed envelope must be marked “Phase II RFP Detailed Cost Proposal” along with the name of the Proposer.

b. **Drawings:** For drawing submittals, comply with the following:

- i. **Design Display Boards:** Provide rigid, black or white, one-half inch thick, foam-core board.

Section III—Proposal Requirements

2. Submittal Requirements

C. Phase II RFP Submittal

- Board size 36 x 48 inches
 - Landscape format.
 - Scale: Whenever practical, Proposer should use the following scales:
 - Site/ground floor plan and surrounding area: one/eighth inch equals one foot.
 - Typical upper floor plans and stacking/blocking drawings: one/eighth inch equals one foot
 - Roof plan: one/eighth inch equals one foot.
 - Building elevations and sections: one/eighth inch equals one foot.
 - Colored perspective drawings are optional
- ii. **Full Sized Paper Drawings:** For all large format drawings in the submittal, provide full sized paper drawings in either standard “D” or “E” size as appropriate.
- iii. **Proposal Binder Drawings:** Required drawings, diagrams and/or reduced copies of Display Boards that are included in the Proposal binders should be standard Letter or Tabloid size (one fold).
- c. **Proposal Binders/Notebooks:** Proposals should be submitted in binders or notebooks:
- i. **Label:** Include the Project Name, “Phase II”, and the name of the Proposer.
 - ii. **Size:** Provide standard sized 3 ring binders.
 - iii. **Volumes:** If more than one binder is needed, label each with the appropriate volume number.
- d. **Compact Disks:** Provide standard CD’s (compact disks):
- i. **Label:** Include the Project Name, “Phase II”, and the name of the Proposer.
 - ii. **Format:** Use the Acrobat PDF file format.
 - iii. **Volumes:** If more than one CD is needed, label each with the appropriate volume number.
- e. **Copies of Documents:** Provide the number of copies required below:
- i. **Paper:** Provide five copies
 - ii. **Full Sized Drawings:** Provide five copies
 - iii. **CD disk:** Provide one copy
- f. **Signature of Authorized Partner or Corporate Officer:** Each submittal must contain the signature of a legally authorized joint-venture partner, corporate officer, or partner. This signature must appear on the Phase II RFP Design-Build Proposal Form and on the Detailed Cost Proposal.
- i. Proposals by partnerships must be executed in the partnership name and signed by a partner, whose title must appear under the signature.

Section III—Proposal Requirements

2. Submittal Requirements

C. Phase II RFP Submittal

The official address of the partnership must be shown below the signature.

- ii. Proposals by corporations must be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation must be shown below the signature. If the proposer is an out-of-state corporation, evidence of authority to conduct business in the state where the work is to be performed must be attached.
 - g. **Acknowledgement of All Addenda Required:** Each submittal must contain an acknowledgement of the receipt of ALL addenda issued for the RFP. The numbers of all the addenda must be filled in on the appropriate section of the Phase II RFP Design-Build Proposal Form (Section VII – 4.B.2).
 - h. **Design Build Team Presentations:** The presentations will be a significant method for showing how well each Design-Build Team has resolved the State's programming needs with its budget and schedule.
 - i. The Proposers will present their entire design concept and be prepared to answer questions from the Executive Jury.
 - The key individual Team members who will be directly working on the project should assume the primary presentation responsibilities.
 - ii. Proposers should identify problems and potential risks and be prepared to propose methods for mitigation.
 - iii. The Executive Jury will oversee the presentations; however Technical Evaluation Panel members may be present if requested by the Jury.
- 2) **Submittal Letter and Forms:** In addition to the submittal requirements itemized below, complete and submit the following Cover Letter, Checklist and Forms:
- a. **Cover Letter:** Provide a cover letter identifying:
 - i. The Proposer (prime), and if appropriate, the joint-venture members.
 - ii. Identify the lead design architect, architect-of-record and the general contractor builder (if other than the Proposer).
 - iii. Include a brief description of the legal relationship among the principal entities with regard to the project.
 - iv. Identify a single contact person for this proposal and the relevant contact information.

Section III—Proposal Requirements

2. Submittal Requirements

C. Phase II RFP Submittal

- b. Phase II RFP Checklist:** Complete and submit the Phase II RFP Checklist (Section VII—4.B.1).
- c. Phase II RFP Design-Build Proposal Form:** Complete and sign the Phase II RFP Proposal Form (Section VII—4.B.2).
- d. Joint Venture Letter or LLC Guaranty Form:** If the legal relationship among the principal entities is a Joint Venture, include a letter signed by the Principals authorizing the relationship. If the legal relationship is a Limited Liability Company (LLC), complete and submit the LLC Guaranty Form (Section VII—4.B.8)

3) Specifications:

- a. Narrative and Outline Specifications:** Provide narrative descriptions and outline specifications of systems and major materials.
- b. ADA:** Provide a detailed narrative describing the intended ADA concepts incorporated.
- c. LEED:** Provide a preliminary LEED Silver Checklist and narrative.
 - i. **LEED Checklist:** For each LEED credit claimed, provide preliminary concept supporting documentation (or reference appropriate proposal design drawings or specifications).
 - ii. **Narrative:** Provide a narrative of project specific sustainable design strategies as well as any relevant LEED tracking tools to be used by the Design-Build Team.
- d. Energy:** Provide an Energy conservation plan.
 - i. Provide a preliminary outline Energy Life Cycle Cost Analysis including estimated first costs, operating costs and energy use.
- e. Security:** Provide a security systems narrative plan.
- f. Code:** Provide a Code Review analysis narrative.

4) Site:

- a. Layout:** Provide a detailed site layout in visual schematic form. Indicate true north on the layout.
- b. Building Footprints:** Show the buildings and facilities orientation, configuration and relationship to the site,
- c. Fuel Island & Radio Tower:** Indicate Fuel Island and Radio Tower location and connectivity to buildings.
- d. Bus and Smoking Shelters:** Show bus stop and smoking shelter locations
- e. Site Entry/Exit:** Indicate ingress and egress for all vehicles and pedestrians.
- f. Traffic Flow:** Provide a vehicle traffic flow plan to all facilities and loading docks access.
- g. Parking:** Show the number and location of parking stalls.
- h. Pedestrians:** Provide a pedestrian circulation pattern.

Section III—Proposal Requirements

2. Submittal Requirements

C. Phase II RFP Submittal

- i. **Lighting and signage:** Indicate the location of exterior lighting and signage.
- j. **Expansion:** Show potential areas for all future expansion.
- k. **Commute Trip Reduction:** Provide a detailed narrative describing how the site and the buildings will encourage alternatives to single occupant vehicle use. This may include reduced parking, building amenities such as showers and lockers, bike racks, etc.
- l. **Utilities:** Provide a narrative and plan of the utility requirements.
- m. **Stormwater:** Provide a detailed narrative and schematic of the storm water management plan.

5) Landscaping:

- a. **Narrative:** Provide a detailed narrative and schematic of the landscaping plan to include the placement of flora, irrigation, berms, and maintenance plans.

6) Building Exterior Envelope:

- a. **Elevations:** Provide building elevations showing exterior materials, window spacing and treatment with sill and head heights.
- b. **Roof:** Show roof materials and parapet treatment along with mechanical equipment locations.
- c. **Sections:** Provide building sections showing length and width of building, wall materials, wall cross-sections, floor to floor Heights, ceiling heights and overall building heights.

7) Structural:

- a. **Concept:** Provide a structural scheme and concept for each facility and structure.

8) Building Interior:

- a. **Floor Plans:** Provide floor plans showing overall dimensions, column locations and bay spacing.
- b. **Stacking and Blocking:** Provide a floor by floor stacking and blocking for functional agency plan with potential tenant layout.
- c. **Fixed Elements:** Show permanent elements such as mechanical equipment, structural walls, restrooms and elevators and stairways.
- d. **Circulation and Service Areas:** Provide the location of building entrances, foyers, lobbies and service areas.

9) Mechanical:

- a. **HVAC:** Provide a detailed HVAC system description, including but not limited to zoning, energy conservation features and control systems.

Section III—Proposal Requirements

2. Submittal Requirements

C. Phase II RFP Submittal

- b. IAQ:** Provide an Indoor Air Quality (IAQ) narrative and indicate the utilization of outside air filtration systems.
- c. Air Intake/Exhaust:** Indicate intake and exhaust port locations.
- d. Commissioning & Energy Efficiency:** Provide a commissioning and energy efficiency narrative.

10) Electrical:

- a. Electrical Plan:** Provide an electrical service and distribution plan.
- b. Power Distribution:** Provide a data and power distribution plan.
- c. Cable Management:** Provide a cable management plan.
- d. Security:** Provide a security electronic access system distribution plan.

11) Detailed Cost Proposal:

- a. Detailed Costs:** Provide a detailed cost proposal using the format in the Attachments (Section VII—4.B.7).
- b. Submittal:** Cost proposal must properly signed, as required above, and be submitted in a sealed envelope.
 - i.** Mark the envelope clearly with “Phase II RFP Detailed Cost Proposal” along with the name of the Proposer.

12) Project Schedule:

- a. Milestones & Critical Path:** Provide a detailed project schedule showing key milestones and critical path.

13) Quality Management Plan:

- a. Provide QM Plan:** Provide a detailed Quality Management Plan that complies with the Design Guideline requirements (Section VI—3).
- b. Staffing and Reporting:** Indicate responsible individuals and reporting procedures.
- c. Show Deviations:** Indicate where Proposed quality management plan differs from State’s Design Guidelines (Section VI—3).

14) Management Plan:

- a. Management approach to project:** Explain how the Design-Build Team proposes to manage the project.
 - i.** Indicate how the Proposer will reduce risk and cost, maintain schedule, and add value to the State’s project.
- b. Interaction with State’s Team:** Explain how the Design-Build Team proposes to interact with the structure of the State’s project team.
 - i.** Include proposed methods for appropriate exchange of vital information, project schedule control, issue resolution, and communications control.

Section III—Proposal Requirements

2. Submittal Requirements

C. Phase II RFP Submittal

- c. Organizational Chart:** Provide a comprehensive Design-Build Team organizational chart

15) Closeout Plan:

- a. Provide a Closeout Plan:** Provide a detailed Closeout Plan that complies with the Design Guideline requirements (Section VI—6).
- b. Show Deviations:** Indicate where Proposed quality management plan differs from State’s Design Guidelines (Section VI—6).

16) Risk Analysis:

- a. RA Plan:** Provide a Risk Assessment (RA) Plan. A guide to preparing the RA plan is provided in Attachment C (Section VII—4.B.4). The RA Plan should:
 - i. Identify the risk areas that are specific and unique to the Proposal.
 - ii. Identify solutions to the potential risks.
 - iii. Indicate any value-added items.
- b. Template:** An RA Plan template is provided (Section VII—4.B.4). This template must be used to submit RA Plans.

17) Safety Plan:

- a. Accident Prevention Program:** Outline of the site specific safety program the builder intends to implement for this project. Indicate responsible individuals and reporting procedures.

18) Deviation from Design Guidelines and Space Needs Program

- a. Identify Deviations:** The Proposer should clearly and explicitly identify any deviations from the criteria required in the Space Needs Program (Section V) and/or the Design Guidelines (Section VI).
 - i. Use Attachment as a template (Section VII—4.B.5)
- b. Advantages:** The Proposer should clearly identify why the acceptance of the proposed deviations and alternatives will be advantageous to the State.
- c. Proof of Merit:** The burden of proof of the merit of any proposed alternative is the responsibility of the Proposer.

19) Alternatives and Value-Added Design Elements:

- a. Innovative and Efficient Solutions:** The State encourages proposals that exceed the quality and efficiency of the requirements in the Space Needs Program (Section V) and/or Design Guidelines (Section VI).

Section III—Proposal Requirements

2. Submittal Requirements

C. Phase II RFP Submittal

- b. Identify Alternatives and/or Value-Added Design Elements:** Clearly identify the proposed alternatives and/or value-added elements and why they will be advantageous to the State.
 - i. Use Attachment as a template (Section VII—4.B.6)
- c. Proof of Merit:** The burden of proof of the merit of any proposed alternative is the responsibility of the Proposer.

20) Security (Bid Bond): Provide proposal security (bid bond).

- a. Submission:** Submit original signed and notarized copy of Proposal Security (Bid Bond) along with the original, signed copy of the Phase II RFP Detailed Cost Proposal.
- b. Form:** Proposal Security must be in the form of a surety bond using the form of Attachment provided (Section VII—4.B.3).
- c. Sealed Envelope:** Submit Security within the same sealed envelop as the Detailed Cost Proposal. Mark the envelope clearly with “Phase II RFP Detailed Cost Proposal” along with the name of the Proposer.
- d. Surety Bonds:** Issued by a surety meeting the requirement of the Design Build Contract Agreement.
- e. Surety Retained:** The proposal Security of the successful Proposer will be retained until such Proposer has executed the Agreement, furnished any required contract security, and met the other conditions of the Award, whereupon the proposal security will be returned.
 - i. The Security of other Proposers whom the State believes to have a reasonable chance of receiving the award may be retained by State until 7 days after the effective date of the Agreement with the successful Proposer or 60 days after receipt of proposals, whichever is earlier.
 - ii. The Security of Proposers whose proposal is not considered competitive will be returned within 7 days after Award to the successful Proposer.

Section III—Proposal Requirements

2. Submittal Requirements

D. Pre-Award Phase

D. Pre-Award Phase Submittal: Proposals must be submitted at the time and location designated in the State's written notification letter.

1) Submittal requirements:

- a. Revisions:** Document agreed upon revisions from the original designs as proposed in the Phase II RFP submittal and presentation.
- b. Costs:** Provide revised, detailed line-item cost spreadsheet showing agreed upon additions, deletions and changes.
- c. Professional Services Costs:** Provide detailed professional services billing rate sheet.
- d. Schedule:** Provide project schedule showing variance from Phase II RFP project schedule (if any).

Section III—Proposal Requirements

2. Submittal Requirements

E. Communications

E. Communications Requirements and Limitations

1) Question and Answer Periods:

- a. Submitting Questions:** During all but the last 10 days of the Phase I RFQ period and the last 30 days of the Phase II competition period, Proposers will be allowed to submit to the State written questions and requests for additional information.
 - i. Address all written questions, letter or fax, to the Project Contact Person identified in Section I—1.E of this RFP.
 - ii. Oral or e-mail communications will not be accepted.
- b. State's Reply:** All questions received by each Thursday will be answered and returned to all competing Proposers by the following Wednesday unless the nature of the question requires further time or research to properly construct and answer. Anonymity of the source of specific questions will be maintained in the written answers.

2) Contact with State's Team prohibited:

Proposers, and any members or agents of the Proposer's Team, are prohibited from discussing the RFP and the project with any member of the Executive Jury, Technical Evaluation Panel, or State's Project Team. Unauthorized contact during the proposal preparation and evaluation periods may result in disqualification.

- a. Exceptions:** Contact and discussion is authorized and encouraged under the following conditions:
 - i. Formal written letter or fax directed or delivered to the Project Contact Person identified in Section I—1.E of this RFP and in accordance with the requirements of the Question and Answer Periods above (Section III-2.E.1)
 - ii. State scheduled briefings, conferences or training sessions that are open to all Proposers.
 - iii. Formal interviews and presentations that are a scheduled part of the selection process.
 - iv. Proposer requested debriefings of unsuccessful proposals, after the release of selection results.
 - v. During any part of the Pre-Award Conference process.

3) State's communications with Proposers:

- a. Addenda:** State may issue addenda to the RFP to reply to Requests for Information (RFI), questions, issues, errata, or comments that arise from the communications authorized above. Addenda may also be issued to modify the RFP documents when needed by the State.
 - i. Only registered RFP holders will receive notification of addenda.

Section III—Proposal Requirements

2. Submittal Requirements

E. Communications

- b. **Delivery:** State's communications will be sent via fax or mail directly to all parties registered with the Project Contact Person identified in Section I—1.E of this RFP.
- c. **RFI deadline:** Requests for Information (RFI) or questions received less than ten days prior to the date for receipt of proposals for Phase I RFQ and less than 30 days prior to the date for proposals for Phase II will not be answered.
- d. **Legal effect:** Only questions answered by formal written addenda to the RFP will be binding; oral and other interpretations or clarifications will be without legal effect.
 - i. **Briefings:** Representatives of the State will be present to discuss the project at scheduled briefings.
 - Oral statements made by the State's team or consultants at briefings may not be relied upon and will not be binding or legally effective.
 - The State may choose to issue a written addendum documenting the oral responses to questions or issues arising at the briefing; this addendum is legally binding.

Section III—Proposal Requirements

3. Addenda

3. Addenda:

No addenda have been issued

Section III—Proposal Requirements

3. Addenda

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Section IV

Evaluation Criteria

Section IV—Evaluation Criteria

1. General:

A. Scoring weighting criteria and methods:

- 1) **Basis of Selection:** The successful proposal (both Phase I RFQ and Phase II RFP) will be the one that provides the best value to the State based on a total score reviewed by the Executive Jury using weighted criteria in addition to any exceptional qualifications.
- 2) **Blind Scoring:** Initial evaluations will be completed by the Technical Evaluation Panel and will use “blind” scoring methods; i.e. the evaluators will not know which Design-Build Team they are scoring.

B. Release of scores: Release of scores and debriefing will not occur until after the selection and notification of those Design-Build Teams selected to continue on with each phase of the selection process.

- 1) **By request:** Release of scores and debriefing for individual Proposers will be provided upon request from that Proposer.
- 2) **No public release:** State will not publicly release scoring or comments about unsuccessful Proposers unless required by a specific request as required by public information legislation.

Section IV—Evaluation Criteria

2. Phase I RFQ Evaluation Criteria:

The Executive Jury will use the following criteria matrix for selecting those Design-Build Teams that will continue on to the Phase II RFP process.

PHASE I RFP PROCESS EVALUATION SHEET

Category/Element	Element Description	Points
Compliance with Submittal requirements	See Section III - Proposal Requirements	Pass/Fail
Cover Letter	Describe Team According to Section III - Proposal Requirements	Pass/Fail
Payment and Performance Bond	Provide letter from Proposer's surety or its agent.	Pass/Fail
Insurability	Provide letter from Proposer's surety or its agent.	Pass/Fail
Reference List	List of references to whom surveys were sent	Pass/Fail
Past Performance		
	Summarization of past performance	250
	Subtotal	250
Experience		
	Total number of projects	25
	Total cost of comparable projects	25
	Subtotal	50
Risk		
	Structure of plan (organized, concise, easy to identify risks and solutions)	25
	Identification of problematic areas specific/unique to this project (In terms of cost, schedule, and quality)	100
	Plan to minimize risk (Solutions)	100
	Increase of value (Cost reduction or added quality)	75
	Subtotal	300
Interview		

Section IV—Evaluation Criteria

	Management approach to project and Team organizational structure	80
	Key management personnel interviews	80
	Internal communication and team work	80
	Customer communication	80
	Innovative ideas	40
	Design Capabilities	40
	Subtotal	400
	Total possible points	1000

Section IV—Evaluation Criteria

Phase II RFP Evaluation Criteria:

The Executive Jury will use the following criteria matrix for selecting the winning Design-Build Team that will continue on to the Pre-Award Phase of the RFP process.

PHASE II RFP PROCESS EVALUATION SHEET

Category/Element	Element Description	Points
Compliance with Submittal requirements	See Section III - Proposal Requirements	Pass/Fail
Cover Letter	Describe Team According to Section III - Proposal Requirements	Pass/Fail
Joint Venture letter or LLC Guaranty	Only required if form of relationship is a Joint Venture or LLC	Pass/Fail
Compliance with Submittal requirements	See Section IV - Proposal requirements	Pass/Fail
Security (Bid Bond)	Submit Proposal Security (Bid Bond)	Pass/Fail
Contract Amount	Does contract amount exceed MADCC	Pass/Fail
Site		
Accessibility	Are vehicles, pedestrians and other alternative choices accommodated? Is access to public transit and pedestrian friendly amenities available?	100
Parking	How well are parking needs accommodated?	100
Layout	Are the buildings, parking, and storage area layout efficient and operational?	100
	Subtotal	300
Building		
State Design Guidelines	To what degree does the proposal comply with the guidelines and specifications?	100
LEEDS Status	Does the building meet LEED Silver criteria?	40
Agency Program	To what degree does the proposed building meet the intended agency program?	200
Appearance	What is the proposed building image in relation ship to the property?	20
	Subtotal	360

Section IV—Evaluation Criteria

General		
Quality Management Plan	How will Design Builder meet or exceed Quality Management Plan Guidelines?	30
Management/Communication Plan	How will communication be conducted internally and to customers?	30
Closeout Plan	How will Design Builder meet or exceed Project Closeout Guidelines	10
Safety Plan	How will worker safety be assured?	15
Risk Analysis	Identified new risks and solutions.	25
Detailed cost proposal and Schedule	Budget break out according to and project schedule with milestones and critical path identified.	30
	Subtotal	140
Interview		
	Quality and completeness of design solution	35
	How solution addresses State's program needs?	60
	Management approach to project	20
	Design-Build Team coordination with State	30
	Risk mitigation	20
	Budget and schedule	35
	Subtotal	200
	Total possible points	1000

Section V—Space Needs Program

1. Executive Summary

Section V

Space Needs Program

Section V—Space Needs Program

1. Executive Summary

1. Executive Summary

A. Scope of Work

The new WSDOT Olympic Region Complex will consolidate the Region resources and workgroups in a single location on Marvin Road and 32nd Avenue, north of Hawks Prairie in northeastern Thurston County. The complex will be located on approximately 38 acres that are zoned Light Industrial. Design will start in June 2006 with occupancy scheduled for November 2008.

This Space Needs Program includes programming requirements for:

- (1) The 94,000 square foot Administrative Office Building.
- (2) The 72,000 square foot Maintenance Shops Facility.
- (3) The 6,000 square foot covered parking and storage.
- (4) Site development, including parking and vehicle circulation.
- (5) A fueling island.
- (6) A radio communications tower.

- 1) **Administrative Office Building:** Building will house Olympic Region staff.
 - a. **Program:** Space Needs Requirements are identified in this section of the RFP. A detailed report from programming efforts by MSGS Architects is included as an attachment. While the program was completed in November 2005 by MSGS Architects and is available as attachment 2A, Section VII; the data in this RFP are more current and should be used if there is a conflict with the original MSGS program.
- 2) **Maintenance Shops Facility:** Facility will house the Equipment Shop, Stores, Parts, Radio, Carpenter shop, Striping, and Signals.
 - a. **Program:** Maintenance shops needs are included in this section. A detailed report from Maintenance Design Group, completed in December 2005, is included as attachment 2B, Section VII. The data in this RFP are more current than the program report and should be used if there is a conflict with the original MDG program.
- 3) **Site Development:** Site development needs focus on environmental responsibility while providing for employee and visitor parking, accommodating state owned cars, service and maintenance vehicles; and providing covered protection for large specialty maintenance vehicles.
 - a. **Program:** Site development needs are outlined in this Section. In addition, refer to the Site development section of the Design Guidelines, Section VI; and to the programs associated with the Administrative Office Building and the Maintenance Shops Facility (above).

Section V—Space Needs Program

1. Executive Summary

- 4) **Fueling Island:** The fueling island will be a standalone facility available 24 hours a day to the state highway patrol as well as to the Olympic Region Headquarters personnel.
- 5) **Radio Tower:** The radio tower and its support building will be a standalone facility, but will support the functions in the administrative office building.
 - a. **Program:** Radio Tower layout and specifications are available in attachments (Section VII--3.B).

B. Purpose and Goals of Program

1) Purpose:

The purpose of the new Olympic Region Headquarters Complex is to consolidate region resources and workgroups in a single location where substantial improvements in efficiency, technology and working environments will result in reduced operating costs plus improved communications, production and employee satisfaction.

2) Goals:

- **First Priority:**

- Program Requirements**

- Provide a complete Complex that meets all of the State's requirements as defined in the Space Needs Program (Section V).

- Employee Productivity:**

- Optimize alignment / functionality between the region's basic functions.
 - Maximize flexibility to accommodate future needs and organizational changes.

- Employee Satisfaction**

- Provide a Complex with attractive, interesting and functional working environments for employees.
 - Provide easy and effective accessibility throughout the facility.

- **Second Priority:**

- Total Cost of Ownership**

- Provide an easy to maintain, long lasting facility
 - Reduce operating costs.
 - Balance initial costs with life cycle costs, emphasizing functional efficiency, area, materials, and building systems.
 - Apply state-of-the-art technology, equipment and space utilization to optimize efficiencies.

Section V—Space Needs Program

1. Executive Summary

- Provide flexibility to adjust to future energy related changes and their impacts.

Enhancements

- Provide project enhancements that exceed the State’s requirements in the Space Needs Program (Section V—3.C.3).

- **Third Priority:**

Sustainability

- Receive LEED Silver Certification.
- Include access to the facility for multiple transportation modes.

Human Factors

- Improve communication.
- Provide a safe and secure facility for staff and visitors
- Maximize the use of shared meeting rooms, vehicles, and common areas.

- **Fourth Priority:**

Image / Character

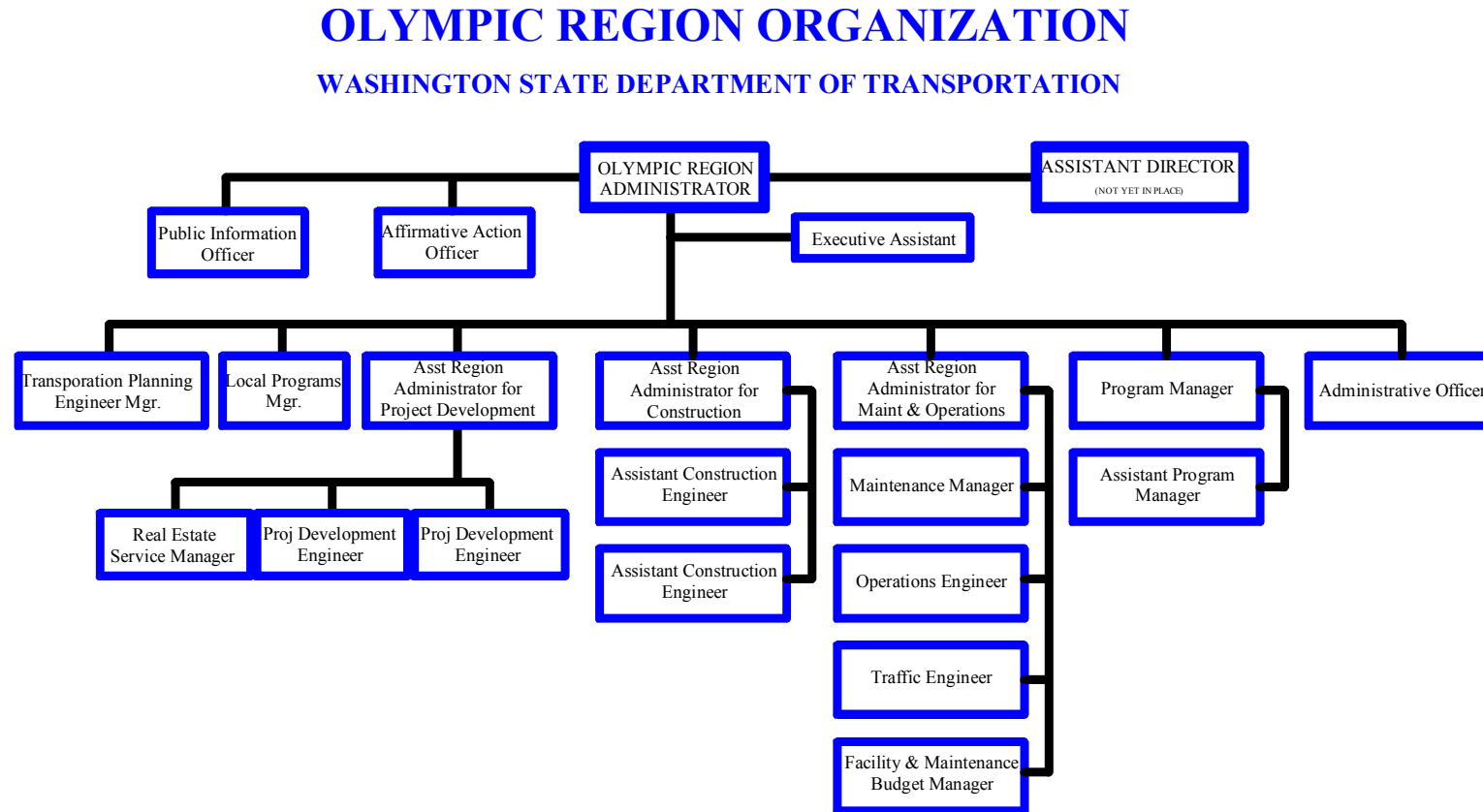
- Create an image that symbolizes the most positive aspects of WSDOT reflecting the functions and purposes of the facility.
- Become an integral part of the community, fitting appropriately within the context of adjacent sites.

Section V—Space Needs Program

1. Executive Summary

C. Organizational Structure:

1) **Organization Chart:** The Olympic Region Organization is shown on the following chart:



2) **Project Organization:** The Project Team's organizational chart is shown in Section II--5

Section V—Space Needs Program

1. Executive Summary

D. Space Needs:

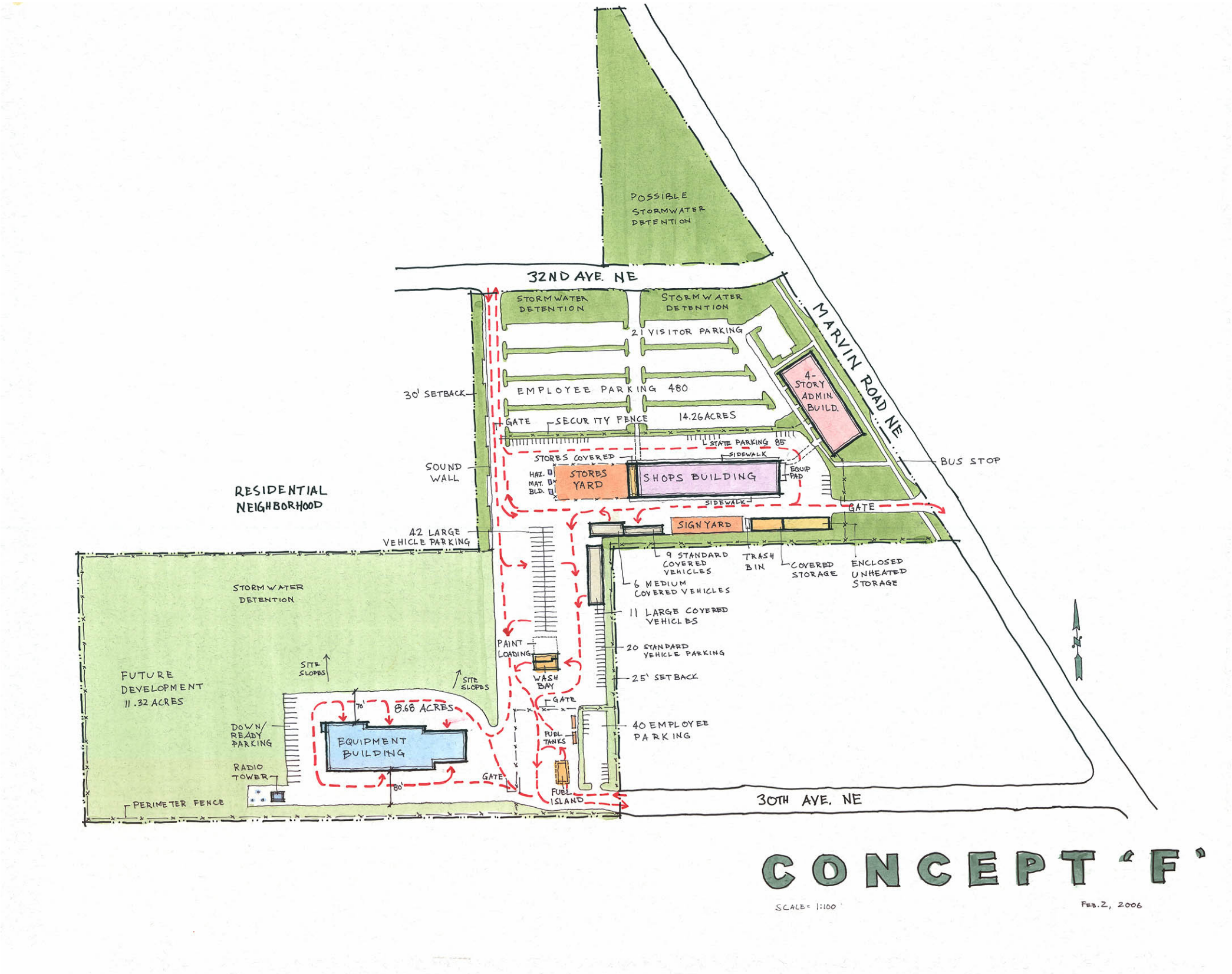
- 1) Space Needs References:** Project space needs requirements can be found in the following locations in the RFP:
 - a. Administrative Office Building:**
 - i. Summary of space needs: Section V—2.C.1
 - ii. Detailed space needs requirements: Section V—2.C.2
 - iii. MSGS Program: Attachment Section VII—2.A
 - b. Maintenance Shops Facility (Including Parking and Storage):**
 - i. Summary of space needs: Section V—3.C.1
 - ii. Detailed space needs requirements: Section V—3.C.2
 - iii. MDG Program: Attachment Section VII—2.B

E. Conceptual Site Layout:

In the fall of 2005, the consultant MDG (Maintenance Design Group) completed a programming effort that culminated in a Design Charrette. During the Charrette, a number of potential site development solutions were explored with the State's maintenance shops facility staff. Detailed information from this programming effort is included in attachment Section VII—2.B.

Shown below is the final conceptual site layout that was developed during the MDG Design Charrette. As such, it represents one option of an acceptable site layout. Five other options were explored during the Charrette and are available for review in the MDG Program report attached in Section VII—2.B. *This layout is included for information only and should not constrain the Proposer to any specific design.* It is only provided here to illustrate the potential relationships between activities on the site. During the selection process, credit will be given to innovative and efficient solutions to the State's needs. The State expects to receive proposals that exceed the quality and efficiency of the concept included below.

Section V—Space Needs Program
1. Executive Summary



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Section V—Space Needs Program

2. Administrative Office Program

B. Functional and Operational Characteristics

2. Administrative Office Building Program

A. General:

- 1) **Programming Report:** Some information about the Administrative Office Building program requirements can be found in the program attachment: Section VII—2.A.
 - a. The program was completed in the Fall of 2005.
 - b. Note: The data in this RFP are more current than the original MSGS Program report; in case of conflict, use the data in the RFP.

B. Functional and Operational Characteristics:

1) Olympic Region Administration:

- a. **Function:** The Olympic Region Administration is responsible for the functions and activities associated with the management and support of program delivery. Spaces will be used for general office activities.
 - iv. Shared spaces:
 - Conference rooms
 - Break room
 - Archive files storage
- b. **Staffing:** Total number of staff: 13
 - i. Administration: 3 staff
 - ii. Project development: 3 staff
 - iii. Public Information office: 6 staff
 - iv. Affirmative Action officer: 1 staff
- c. **Affinities:** The following functional relationships should be provided in the planning of the floor plans:
 - i. Division spaces need to be accessible to all managers in the Olympic Region organization.
 - ii. Regional Administrator, Assistant Director and the Confidential Secretary need to be adjacent a medium sized conference room.
 - iii. Region Administrator, Assistant Director and the Confidential Secretary need to be near the Project Development officers.
 - iv. Region Administrator, Assistant Director and the Confidential Secretary need to be near the Communications office.
 - v. The Affirmative Action officer needs to be in a secluded, private area, not necessarily on the first floor, away from the remainder of this division.
 - vi. The Project Development Office should be located close to Olympic Region Operations Division 5.
- d. **Key Planning Issues:** The following issues should be considered in planning and design:
 - i. All private offices need to be sound insulated. Many negotiation type meetings occur in these offices that require sound insulation in privacy.

Section V—Space Needs Program

2. Administrative Office Program

B. Functional and Operational Characteristics

- ii. Olympic Region Administration offices should be on the first floor close to the main entrance of the building.

2) Transportation Planning Office:

- a. **Function:** The transportation planning office is responsible for providing management and administrative support to three functional teams: development services, systems analysts/corridor planning, and regional planning and coordination. Spaces will be used for general office activities.
 - i. Shared spaces:
 - Conference rooms
 - Break room
 - Copier room
- b. **Staffing:** Total number of staff: 23
 - i. Administration: 3 staff
 - ii. Systems analyst: 7 staff
 - iii. Development services: 6 staff
 - iv. Regional coordination: 5 staff
 - v. Growth: 2 staff
- c. **Affinities:** The following functional relationships should be provided in the planning of the floor plans:
 - i. Needs close proximity to a medium conference room.
 - ii. Transportation Planning offices can be on any floor. This Division has no specific relationships with any other divisions.
- d. **Key Planning Issues:** The following issues should be considered in planning and design:
 - i. The secretary senior will be the receptionist for this office.

3) Local Programs:

- a. **Function:** The Local Programs office is responsible for assisting local agencies in delivery of transportation projects. This office also oversees all transportation funding for Federal programs and some state programs. Spaces will be used for general office activities.
 - i. Shared spaces:
 - Conference room
 - Break room
 - Copier room
- b. **Staffing:** Total number of staff: 7
- c. **Affinities:** The following functional relationships should be provided in the planning of the floor plans:
 - i. No specific relationships required.
- d. **Key Planning Issues:** The following issues should be considered in planning and design:
 - i. Offices can be on any floor. This Division has no specific relationships with any other divisions.

Section V—Space Needs Program

2. Administrative Office Program

B. Functional and Operational Characteristics

- ii. Local Programs staff works with Real Estate Services, Project Development, Construction, and Operations.

4) Project Development Office:

- a. **Function:** The Project Development Office consists of six separate offices; the Utilities Office, Plans Office, Right of Way Plans, Environmental, Managing project delivery, and Information Technology. Spaces will be used for general office activities but this division also has needs for several specialized spaces as shown the in the Detailed Space Needs, Section V—2.C.2, below.
 - i. Shared spaces:
 - Archive storage room
 - Conference rooms –large, medium, and small
 - Office supply/ copy room
 - Break room
- b. **Staffing:** Total number of staff: 87
 - i. Utilities office: 6 staff to
 - ii. Information Technology: 18 staff
 - iii. R/W plans office: 7 staff
 - iv. Plans office: 15 staff (Design Team is part of Plans Office – there are three Separate Teams, - The Design Team, and two other separate teams)
 - v. Environmental office: 30 staff (Environmental Office consists of Hydraulics unit, Biology unit, Documentation and permitting unit)
 - vi. Managing project delivery: 3 staff
 - vii. Growth: 8 staff (Of which 1 will go to Utilities, 2 will go to Information Technology, 1 for Right of Way Plans, 1 for Plans and 3 for Environmental)
- c. **Affinities:** The following functional relationships should be provided in the planning of the floor plans:
 - i. The Utilities office should be located near a medium conference room.
 - ii. The IT Office should be adjacent to the Communications/MDF Room, the Box Down Area and the Loading Dock. Alternatively, if the IT Office is located on an upper floor, it should be near the service elevator.
 - iii. The IT Office needs to be a secure area, separate from the other offices in Project Development.
 - iv. Locate the Computer Set Up & Storage Room adjacent to IT offices. If IT offices are on the upper floors, locate the setup room adjacent to the Box Down area.
 - v. The R/W Plans Office should be adjacent to the Plans Office.
 - vi. The Plans Office should be near small and med conference rooms.
 - vii. The Plans Office makes frequent use of files and should be adjacent to Files.

Section V—Space Needs Program

2. Administrative Office Program

B. Functional and Operational Characteristics

- viii. The Environmental Office can be located on any floor and does not need proximity to any other group.
- ix. The Environmental Office should be near a medium conf room.
- x. Managing Project Delivery needs access to the Training Room or to one of the large conference rooms for training.
- xi. Most training that is performed by the Project Development Trainer, Maintenance Trainer and Construction Trainer is classroom training not in front of a computer. These three trainers should be close to one large conference room.

5) Olympic Region Operations:

- a. **Function:** Olympic Region Operations consists of the Maintenance and Construction Administration offices. They are responsible for the administration of project contracts through the project offices, the Administration of the Roadway Maintenance Program, Traffic Operations, Facilities and Bridge. Spaces will be used for general office activities, but private offices need to be well insulated for sound transmission.
 - i. Shared spaces:
 - Reception
 - Conference room
 - Office supply/ copy room
 - Break room
- b. **Staffing:** Total number of staff: 24
 - i. Construction operations: 8 staff
 - ii. Maintenance operations: 14 staff
 - iii. Growth: 2 staff
- c. **Affinities:** The following functional relationships should be provided in the planning of the floor plans:
 - i. Construction Operations and Maintenance Operations should be adjacent; the two administrative support staff support both of these offices.
 - ii. The Landscape Office (Landscape Architecture and the TPS's) should be integrated with remainder of Maintenance Operations.
 - iii. Landscape Architecture and TPS should be close to a small conference room.
 - iv. Maintenance Operations and Construction Operations have a strong working relationship to between them and need to be adjacent.
 - v. Olympic Region Operations needs to be near a large conference room and have easy access to archive records storage.
 - vi. Traffic does not need to be close to Operations.
- d. **Key Planning Issues:** The following issues should be considered in planning and design:

Section V—Space Needs Program

2. Administrative Office Program

B. Functional and Operational Characteristics

- i. There is no preference where Operations is located; except it should not be adjacent to the Construction Project Engineer offices and traffic operations.

6) Program Management:

- a. **Function:** Program Management is responsible for managing highway construction, and preservation and improvement of funding for highway construction. Spaces will be used for general office activities.
 - i. Shared spaces:
 - Reception
 - Conference room
 - Office supply/ copy room
 - Break room
- b. **Staffing:** Total number of staff: 14 staff
 - i. Program manager: 1 staff
 - ii. Office support and project reporting: 7 staff
 - iii. Strategic programming: 5 staff
 - iv. Growth: 1 staff
- c. **Affinities:** The following functional relationships should be provided in the planning of the floor plans:
 - i. Locate near Olympic Region Administration as first priority.
 - ii. Location near Olympic Region Operations and Transportation Planning is preferable but not required.
- d. **Key Planning Issues:** The following issues should be considered in planning and design:
 - i. Program Management should be located on the first floor adjacent to or close by the Olympic Region Administration Office.

7) Administration, Accounting and Safety Offices:

- a. **Function:** Personnel, Accounting and Safety Offices are responsible for providing internal services such as personnel, health and safety, financial services, and recruitment/civil service testing. Spaces will be used for general office activities, but must be secured.
 - i. Shared spaces:
 - Reception
 - Office supply/ copy room
 - Break room
- b. **Staffing:** Total number of staff: 19 staff
 - i. Personnel: 7 staff
 - ii. Financial services: 7 staff
 - iii. Safety office: 3 staff
 - iv. Growth: 2 staff
- c. **Affinities:** The following functional relationships should be provided in the planning of the floor plans:

Section V—Space Needs Program

2. Administrative Office Program

B. Functional and Operational Characteristics

- i. None specific, but prefer central location to provide access to all divisions.
 - ii. Locate near a medium conference room.
- d. Key Planning Issues:** The following issues should be considered in planning and design:
 - i. These offices can be located anywhere in the building.
 - ii. This division should be located within one secured office area with special emphasis upon security of file storage areas.
 - iii. Two separate types of storage are needed:
 - Personnel Files, Accounting Files, Safety, and Health files need to be secured.
 - Storage for Equipment and other items that are not files should be in a separate room. This storage room should include a sink and a counter to maintain, clean or repair CPR dummies.

8) Real Estate Services Office:

- a. Function:** The Real Estate Services Office is responsible for purchasing real estate under eminent domain. The Office protects property States' interests pursuant to Federal and state laws. The Office appraises, purchases, and manages properties; and relocates persons or businesses for highway projects. Spaces will be used for general office activities.
 - i. Shared spaces:
 - Conference room
 - Break room
- b. Staffing:** Total number of staff: 25 staff
 - i. Administration: 4 staff
 - ii. Appraisal team: 7 staff
 - iii. Negotiations team: 6 staff
 - iv. Property management team: 5 staff
 - v. Local agency coordinator: 1 staff
 - vi. Growth: 2 staff
- c. Affinities:** The following functional relationships should be provided in the planning of the floor plans:
 - i. The Real Estate Services Office should have reasonable access to Project Development, Program Management, Transportation Planning, Accounting and Personnel.
 - ii. Locate near small and medium conference rooms.
- d. Key Planning Issues:** The following issues should be considered in planning and design:
 - i. This office works with a variety of different office, but can be located anywhere in the building.

9) Design Offices A and B:

- a. Function:** The Design Offices are responsible for design administration. Spaces will be used for general office activities but will require special considerations for engineering design services.

Section V—Space Needs Program

2. Administrative Office Program

B. Functional and Operational Characteristics

- i. Shared spaces:
 - Conference rooms
 - Break room
 - Plotter/copy rooms shared between design teams
- b. **Staffing:** Total number of staff: 36 Office A and 37 Office B
 - i. Office A admin: 4 staff
 - ii. Office A team 1: 8 staff
 - iii. Office A team 2: 7 staff
 - iv. Office A team 3: 6 staff
 - v. Office A team 4: 4 staff
 - vi. Office A survey crew: 3 staff
 - vii. Office A growth: 3 staff
 - viii. Office A resource: 1 staff
 - ix. Office B admin: 4 staff
 - x. Office B team 1: 11 staff
 - xi. Office B team 2: 6 staff
 - xii. Office B team 3: 9 staff
 - xiii. Office B survey crew: 4 staff
 - xiv. Office B growth: 3 staff
- c. **Affinities:** The following functional relationships should be provided in the planning of the floor plans:
 - i. Design Office A and Design Office B should be adjacent.
 - ii. Locate both Design Offices adjacent to a large, divisible conference room.
 - iii. Design offices need to be close to copy/work room and have access to as many plotters as possible.
- d. **Key Planning Issues:** The following issues should be considered in planning and design:
 - i. The Design Offices should be located on the first or second floor.

10) Construction Offices A and B:

- a. **Function:** The Construction Offices are responsible for construction administration. Spaces will be used for general office activities.
 - i. Shared spaces:
 - Conference rooms
 - Break room
 - Nuclear gauge storage rooms and survey equipment storage can be shared between construction teams.
- b. **Staffing:** Total number of staff: 33 Office A and 32 Office B
 - i. Office A admin: 4 staff
 - ii. Office A team 1: 6 staff
 - iii. Office A team 2: 6 staff
 - iv. Office A team 3: 8 staff
 - v. Office A team 4: 6 staff
 - vi. Office A growth: 3 staff

Section V—Space Needs Program

2. Administrative Office Program

B. Functional and Operational Characteristics

- vii. Office B admin: 3 staff
- viii. Office B design team: 9 staff
- ix. Office B materials documentation: 4 staff
- x. Office B ore CN team: 10 staff
- xi. Office B survey crew: 3 staff
- xii. Office B growth: 3 staff
- c. **Affinities:** The following functional relationships should be provided in the planning of the floor plans:
 - i. Construction Office A and Construction Office B should share file space. This space needs to be distinct.
 - ii. Should have 24 hour access via rear/secondary entry to lockers and offices.
- d. **Key Planning Issues:** The following issues should be considered in planning and design:
 - i. The Construction Offices must be located on the first floor near the rear building entry and adjacent to Locker Rooms.
 - ii. The Construction Offices should be located near General Building Storage.
 - Storage for both the Construction and the Design PE offices needs to have access other than from the main entrance.

11) Traffic:

- a. **Function:** Traffic is responsible for traffic design, traffic maintenance, and handling calls from the public about safety concerns at intersections. Spaces will be used for general office activities, but private offices need to be well insulated for sound transmission.
 - i. Shared spaces:
 - Conference room
 - Break room
 - File storage room.
- b. **Staffing:** Total number of staff: 60 staff
 - i. Traffic engineering branch: 4 staff
 - ii. Traffic design branch: 29 staff
 - iii. Traffic operations branch: 22 staff
 - iv. Traffic growth: 5 staff
- c. **Affinities:** The following functional relationships should be provided in the planning of the floor plans:
 - i. Locate the traffic operations office adjacent to the traffic design office.
 - ii. Locate near a large conference room.
- d. **Key Planning Issues:** The following issues should be considered in planning and design:
 - i. Traffic can be located anywhere within the building.

12) Core and Support Areas:

Section V—Space Needs Program

2. Administrative Office Program

B. Functional and Operational Characteristics

- a. Storage Spaces:** Many offices/functions rely heavily on their storage spaces. Refer to the Relationship Diagrams below (Section V—2.D.1)
- b. Conference Rooms:** Locate to optimize the access specified in this Section (Section V—2.B) and the *Relationships* (Section V—2.D).
- c. Libraries:** One central library per floor; 200 square feet per library.
- d. Copy/Work/Plotter Rooms:** Need 2 copy/work/plotter rooms per floor; in addition to the requirements for the Printing Services Room (See Section V—2.E.15).
- e. Break Rooms:** Two per floor located strategically amongst the office spaces.

Section V—Space Needs Program

2. Administrative Office Program

C. Space Needs

C. Space Needs:

1) Summary of Needs:

On the following page is a summary of the Administrative Office Building's Space Needs developed by the consultant MSGS. More detailed information is available in the full MSGS Report found in attachment Section VII—2.A.

- a. Note: The data in this RFP are more current than the original MSGS Program report; in case of conflict, use the data in the RFP.

Section V—Space Needs Program
 2. Administrative Office Program
 C. Space Needs
 1. Summary

OLYMPIC REGION HEADQUARTERS PRELIMINARY ADMINISTRATIVE OFFICE PROGRAM

SPACE		QUAN. OF EMP.	OCC. (CODE)	TOTAL NET SPACE
BUILDING SUMMARY				
1	Administration Sub-Total	13	37	2,206
2	Transportation Planning Office Sub-Total	23	25	2,482
3	Trans Aid Office Sub-Total	7	8	768
4	Project Development Office Sub-Total	87	106	10,430
5	Olympic Region Operations Sub-Total	24	32	3,148
6	Program Management Sub-Total	14	17	1,640
7	Administration Office Sub-Total	19	21	2,056
8	Real Estate Services Office Sub Total	25	26	2,528
9	Design Offices A & B Sub-Total	72	73	7,240
10	Construction Offices A & B Sub-Total	67	69	6,920
11	Traffic Sub-Total	57	58	5,748
12	Conference Sub-Total	0	216	7,440
13	Copy/Plotter/Work Room Sub-Total	0	26	3,210
14	File/Storage Sub-Total	0	9	2,632
15	Building Support Sub-Total	3	81	4,212
OFFICE BUILDING NET TOTALS		411	801	62,660
Grossing Factor for 66.7% efficiency:		Includes Growth of 33 Workstations		x 0.5
Toilet Rooms, Janitorial, Circulation, Stairs, Elevators, Electrical and Mechanical Spaces, All Interior & Exterior Walls				
OFFICE BUILDING GROSS TOTAL SQUARE FEET		93,990		

Section V—Space Needs Program

2. Administrative Office Program

C. Space Needs

2. Detailed Space Requirements

2) Detailed Space Requirements:

On the following pages is an extract from the Administrative Office Building Space Needs developed by the consultant MSGS. The extract shows the Detailed Space Needs for each of the office groups summarized above. The entire MSGS Report is included as an attachment Section VII—2.A. *Note: The data in this RFP are more current than the original MSGS Program report; in case of conflict, use the data in the RFP.*

Section V—Space Needs Program
2. Administrative Office Program
C. Space Needs
2. Detailed Space Requirements

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OLYMPIC REGION HEADQUARTERS PRELIMINARY OFFICE PROGRAM

SPACE			QUAN. OF SPACES	QUAN. OF EMP.	OCC. (CODE)	SF/ OCC.	PO/ OO	SPACE SIZE	TOTAL NET SPACE
1	OLYMPIC REGION ADMINISTRATION								
1A	Regional Administrator's Office								
1.01	Olympic Region Admin	R Hain	1	1	3.3	100	PO5	330	330
1.02	Asst Director	Vacant	1	1	2.1	100	PO4	210	210
1.03	Confidential Sec	M Blake	1	1	1	100	OO3A	96	96
1B	Project Development								
1.05	Asst RA for Proj Development	P Bakotich	1	1	2.1	100	PO4	210	210
1.06	Project Dev Engineer	M Frucci	1	1	1.9	100	PO3	192	192
1.07	Project Dev Engineer	R Landon	1	1	1.9	100	PO3	192	192
1C	Public Information Office								
1.10	Public Info Manager	L Brown	1	1	1.5	100	PO2	150	150
1.11	Public Info Officer	D Schow	1	1	0.8	100	OO2C	80	80
1.12	Public Info Officer	A Finman	1	1	0.8	100	OO2C	80	80
1.13	Public Info Officer	N Dawson	1	1	0.8	100	OO2C	80	80
1.14	Resource PC	Temps	2	2	1	100	OO1	48	96
1D	OEO Office								
1.20	Affirmative Action Officer	J River	1	1	1.2	100	PO1	120	120
1E	Support Areas								
1.21	Reception/Waiting Area		1		1	100		100	100
1.22	Medium Conf Room		1		18	15		270	270
Administration Sub-Total			13	37					2,206

Division 1 Adjacency Notes

Division 1 to be on first floor.

1.01 through 1.03 to be adjacent to conf rm 1.22.

1.01 through 1.03 to be in close proximity to Division 6 Program Management.

1.01 through 1.03 to be in close proximity to 1.10 through 1.14.

1.20 to be in secluded, private area of first floor away from remainder of Division 1.

1.05 to 1.07 to be in close proximity to division 5, Olympic Region Operations.

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2. Administrative Office Program
C. Space Needs
2. Detailed Space Requirements

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OLYMPIC REGION HEADQUARTERS PRELIMINARY OFFICE PROGRAM

SPACE			QUAN. OF SPACES	QUAN. OF EMP.	OCC. (CODE)	SF/ OCC.	PO/ OO	SPACE SIZE	TOTAL NET SPACE
2	TRANSPORTATION PLANNING OFFICE								
2A	Transportation Planning Manager								
2.01	Transp Planning Mgr	B Jones	1	1	1.9	100	PO3	192	192
2.02	Secretary Sr	D Maker	1	1	0.8	100	OO2A	80	80
2.03	Asst Planning Mgr	V Steigner	1	1	1.5	100	PO2	150	150
2B	Systems Analysis								
2.04	System Planning Engr	J Donahue	1	1	1.2	100	PO1	120	120
2.05	Planning Spclst	S Kashani	1	1	0.8	100	OO2	80	80
2.06	Planning Spclst	M Marrah	1	1	0.8	100	OO2	80	80
2.07	Planning Team Leader	L Hakes	1	1	1	100	OO3D	96	96
2.08	Planning Tech	Y Liufau	1	1	0.8	100	OO2	80	80
2.09	Planning Spclst	Vacant	1	1	0.8	100	OO2	80	80
2.10	Systems Analysis Team Lead	F Suttmiller	1	1	1	100	OO3D	96	96
2C	Development Services								
2.11	Dev Services Engineer	D Severson	1	1	1.2	100	PO1	120	120
2.12	Dev Services Sr Reviewer	Alana	1	1	1	100	OO3D	96	96
2.13	Dev Services Sr Reviewer	D Carruth	1	1	1	100	OO3D	96	96
2.14	Dev Services Sr Reviewer	Leroy	1	1	1	100	OO3D	96	96
2.15	Dev Services Review	Vacant	1	1	0.8	100	OO2	80	80
2.16	Planning Tech	T Johnson	1	1	0.8	100	OO2	80	80
2D	Regional Coordination								
2.17	Region Planning & Coord Mgr	G Kovich	1	1	1.2	100	PO1	120	120
2.18	RHTPO Coordinator	P Babineau	1	1	1	100	OO3D	96	96
2.19	Regional Planning PIO Coord	D Clemen	1	1	1	100	OO3D	96	96
2.20	TDM Coordinator	T Niderow	1	1	1	100	OO3D	96	96
2.21	Transportation Planner	Vacant	1	1	0.8	100	OO2	80	80
2E	Support Areas								
2.22	Growth Work Stations		2	2	1.9	100	OO3D	96	192
2.23	Small Conference room		1		1.8	100		180	180
Transportation Planning Office Sub-Total			23	25					2482

Division 2 Adjacency Notes

Division 2 has no specific relationship with other divisions.
Division 2 to have proximity to a medium conference room, 12.04.

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2. Administrative Office Program
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OLYMPIC REGION HEADQUARTERS PRELIMINARY OFFICE PROGRAM

SPACE			QUAN. OF SPACES	QUAN. OF EMP.	OCC. (CODE)	SF/ OCC.	PO/ OO	SPACE SIZE	TOTAL NET SPACE
3 LOCAL PROGRAMS									
3A Office Areas									
3.01	Local Programs Engr	N Campbell	1	1	1.9	100	PO3	192	192
3.02	Asst Local Programs Engr	B Moorehead	1	1	1.2	100	PO1	120	120
3.03	Asst Local Programs Engr	R Egolf	1	1	1.2	100	PO1	120	120
3.04	Contract Admin/Agreements	K Kalish	1	1	1	100	OO3C	96	96
3.05	Local Programs Area Engr	M Brooks	1	1	0.8	100	OO2	80	80
3.06	Local Programs Area Engr	B Samblis	1	1	0.8	100	OO2	80	80
3.07	Growth Work Station		1	1	0.8	100	OO2	80	80
Local Programs Sub-Total			7		8	768			

Division 3 Adjacency Notes

Division 3 has no specific relationship with other divisions.
Files for this office need to be adjacent to cubicles, or inside them

Section V—Space Needs Program

2. Administrative Office Program

C. Space Needs

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OLYMPIC REGION HEADQUARTERS PRELIMINARY OFFICE PROGRAM

SPACE			QUAN. OF SPACES	QUAN. OF EMP.	OCC. (CODE)	SF/ OCC.	PO/ OO	SPACE SIZE	TOTAL NET SPACE
4	PROJECT DEVELOPMENT OFFICE								
4A	Utilities Office								
4.01	Utilities Engineer	K McKeon	1	1	1.5	100	PO2	150	150
4.02	Project Support Engineer	G Immel	1	1	1	100	OO3B	96	96
4.03	Area Utilities Engineer	J Narramore	1	1	0.8	100	OO2C	80	80
4.04	Utilities Technician	G Tittmore	1	1	0.8	100	OO2C	80	80
4.05	Project Support Engineer	P Lorenzo	1	1	1	100	OO3B	96	96
4.06	Area Utilities Engineer	W Wonch	1	1	0.8	100	OO2	80	80
4B	Information Technology								
4.10	IT Mgr	J Hamre	1	1	1.5	100	PO2	150	150
4.11	Asst IT Mgr	A Howard	1	1	1.2	100	OO4	120	120
4.12	Help Desk Support Spclst	L Meeks	1	1	0.8	100	OO2A	80	80
4.13	Workstation Support Superv	T Westfall	1	1	1	100	OO3D	96	96
4.14	Workstation Support Spclst	vacant	1	1	1	100	OO3D	96	96
4.15	Workstation Support Spclst	J Gregoire	1	1	1	100	OO3D	96	96
4.16	Workstation Support Spclst	R Woodruff	1	1	1	100	OO3D	96	96
4.17	Workstation Support Superv	P Dobsin	1	1	1.2	100	OO4	120	120
4.18	Application Software Coord	S Kendrick	1	1	0.8	100	OO2C	80	80
4.19	Deployment Tech	vacant	1	1	1	100	OO3D	96	96
4.20	Deployment Tech	vacant	1	1	1	100	OO3D	96	96
4.21	Deployment Tech (Contractor)	Z Wilhoite	1	1	1	100	OO3D	96	96
4.22	Network Services Mgr	J Hewitt	1	1	1.2	100	OO4	120	120
4.23	CAE Team Leader	J Graham	1	1	1	100	OO3D	96	96
4.24	CAE Support Engineer	C LaPointe	1	1	0.8	100	OO2C	80	80
4.25	CAE Support Engineer	C Stoval	1	1	0.8	100	OO2C	80	80
4.26	Help Desk		1		1.5	100		150	150
4.27	Delivery/Box Down Area		1		2	100		200	200
4.28	Computer Set Up & Storage		1		4	100		396	396
4.29	Communications/MDF Room		1		3	100		306	306
4C	R/W Plans Office								
4.35	R/W Engineer	S Wasmundt	1	1	1	100	OO3B	96	96
4.36	R/W Plans Engineer	vacant	1	1	1	100	OO3B	96	96
4.37	CAD Engineer	S Bryant	1	1	1	100	OO3B	96	96
4.38	R/W Plans Supervisor	M Sweeney	1	1	1	100	OO3B	96	96
4.39	R/W CAD Mgr	S Palmen	1	1	1.2	100	PO1	120	120
4.40	Plans Tech	M McCabe	1	1		in Printing Svc Rm			
4.41	R/W Plans Tech	D Jorgensen	1	1	1	100	OO3B	96	96
4.42	Microfiche station		1		0.8	100	OO2C	80	80
4.43	GPS PC	vacant	1	1	0.5	100		48	48
4.44	GPS Crew	vacant	1	1	0.5	100		48	48
4D	Plans Office								
4.45	Plans Mgr	M Britton	1	1	1.9	100	PO3	192	192
4.46	Asst Plans Mgr	B Dias	1	1	1.2	100	PO1	120	120
4.47	Secretary Senior	vacant	1	1	0.8	100	OO2A	80	80

Section V—Space Needs Program

2. Administrative Office Program

C. Space Needs

2. Detailed Space Requirements

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OLYMPIC REGION HEADQUARTERS PRELIMINARY OFFICE PROGRAM

	SPACE		QUAN. OF SPACES	QUAN. OF EMP.	OCC. (CODE)	SF/ OCC.	PO/ OO	SPACE SIZE	TOTAL NET SPACE
4	PROJECT DEVELOPMENT OFFICE (Continued)								
4D1	Team #1								
4.48	Design Support Engr	S Vestal	1	1	0.8	100	OO2B	80	80
4.49	Design Support Engr	K Kreger	1	1	0.8	100	OO2B	80	80
4.50	Design Support Engr	R Houx	1	1	1	100	OO2B	96	80
4.51	Design Support Engr	vacant	1	1	0.8	100	OO2C	80	80
4.52	Design Support Tech	vacant	1	1	0.8	100	OO2C	80	80
4D2	Design Team								
4.53	CAD Operator	J Curry	1	1	0.8	100	OO2B	80	80
4.54	Design Team Leader	S Thomson	1	1	1	100	OO3B	96	96
4.55	Designer	C Minten	1	1	0.8	100	OO2B	80	80
4D3	Team #3								
4.56	Roadside Safety Engr	R Baugh	1	1	1	100	OO3B	96	96
4.57	Design Team Leader/Cons	K Johnson	1	1	1	100	OO3B	96	96
4.58	Technician	J Turner	1	1	0.8	100	OO2C	80	80
4.59	Designer	vacant	1	1	0.8	100	OO2C	80	80
4.60	Reception/Waiting		1		1.5	100		150	150
4E	Environmental Office								
4.65	Asst Environmental Mgr	L Moody	1	1	1.2	100	PO1	120	120
4.66	Environmental Mgr	T Whitney	1	1	1.9	100	PO3	192	192
4.67	Office Secretary	T Landon	1	1	0.8	100	OO2A	80	80
4.68	Temp Office Asst	T Kelly	1	1	0.8	100	OO2A	80	80
4.69	Env Tech	P Ambrosino	1	1	0.8	100	OO2B	80	80
4E1	Hydraulics Unit								
4.70	Asst Hydraulics Engr	D Dizon	1	1	0.8	100	OO2C	80	80
4.71	Asst Hydraulics Engr	M Olmstead	1	1	0.8	100	OO2C	80	80
4.72	Hydraulics Engr Design	S Thompson	1	1	1	100	OO3B	96	96
4.73	Hydraulics Engr Operations	B Lindgren	1	1	1	100	OO3B	96	96
4.74	Asst Hydraulics Engr	J Williams	1	1	0.8	100	OO2C	80	80
4E2	Biology Program Unit								
4.75	Biology Program Mgr	C Ward	1	1	1.2	100	OO4	120	120
4.76	Env Biologist	J Beall	1	1	1	100	OO3B	96	96
4.77	Env Biologist	T Chestnut	1	1	1	100	OO3B	96	96
4.78	Fisheries Biologist	E Gower	1	1	1	100	OO3B	96	96
4.79	Restoration Crew	S Bouffillier	1	1	0.8	100	OO2C	80	80
4.80	Restoration Crew Coord	T Dukes	1	1	0.8	100	OO2C	80	80
4.81	RMEC	K Schlatter	1	1	1	100	OO3B	96	96
4.82	Restoration Crew	J Harris	1	1	0.8	100	OO2C	80	80

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SPACE			QUAN. OF SPACES	QUAN. OF EMP.	OCC. (CODE)	SF/ OCC.	PO/ OO	SPACE SIZE	TOTAL NET SPACE
4	PROJECT DEVELOPMENT OFFICE (Continued)								
4E3	Documentation & Permitting								
4.82	Env Doc Program Mgr	K Mueller	1	1	1.2	100	OO4	120	120
4.83	Env Engr	D Zahn	1	1	0.8	100	OO2B	80	80
4.84	Env Engr	T Barton	1	1	0.8	100	OO2B	80	80
4.85	Env Planner	R Neff	1	1	0.8	100	OO2B	80	80
4.86	SR 167 Env Planner	C Stonick	1	1	0.8	100	OO2B	80	80
4.87	SR 167 EIS Mgr	M Elling	1	1	1.2	100	OO4	120	120
4.88	Sr Env Engr	H Bhalla	1	1	1.2	100	OO4	120	120
4.89	Sr Env Engr	S Kelsey	1	1	1.2	100	OO4	120	120
4.90	Env Engr	C McNamara	1	1	0.8	100	OO2B	80	80
4.91	Env Engr	D Evans	1	1	0.8	100	OO2B	80	80
4.92	Staff Engr	D Ireland	1	1	0.8	100	OO2B	80	80
4.93	Resource PC	Temp	1	1	0.8	100	OO2B	80	80
4F	Managing Project Delivery								
4.95	MPD Mgr	B Elliot	1	1	1.2	100	PO1	120	120
4.96	Project Development Trainer	D Philpott	1	1	1.2	100	OO4	120	120
4.97	PS8/PDIS	A Sprouffske	1	1	1	100	OO3D	96	96
4G	Support Areas								
4.98	Growth Work Stations		8	8	7.7	100	OO3B	96	768
4.99	Reception/Waiting		2		2	100		100	200
4.100	Open Conference Areas		4		7.2	100		180	720
Project Development Office Sub-Total			87	106					10430

Division 4 Adjacency Notes

Division 4A Utilities Office (4.01 - 4.06) to be in close proximity to a med conf rm (12.04).
 Division 4B IT Office (4.10 - 4.29) to be adjacent to Box Down Area (4.30) and Loading Dock (15.01).
 Division 4B IT Office (4.10 - 4.29) to be adjacent to Communications/MDF Rm (4.32).
 Computer Set Up & Storage Room 4.32 to be next to IT Division 4B (4.10 - 4.29).
 Division 4C R/W Plans Office (4.35 - 4.42) to be adjacent to 4D Plans Office (4.45 - 4.60).
 Division 4D Plans Office (4.45 - 4.60) to be in close proximity to small & med conf rms (12.04 and 12.05).
 Division 4D Plans Office (4.45 - 4.60) to be adjacent to Files (14.03).
 Division 4E Environmental (4.65 - 4.82) prefers a second or first floor location.
 Division 4E Environmental (4.65 - 4.82) does not need proximity to any other group.
 Division 4E Environmental (4.65 - 4.82) to be in close proximity to a med conf rm (12.04).
 Division 4F Managing Project Delivery (4.95 - 4.97) to be in close proximity to Training Rm (12.02).
 4.40 Printing Services to be located on first floor. All other copy/workrooms to be located on other floors

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SPACE			QUAN. OF SPACES	QUAN. OF EMP.	OCC. (CODE)	SF/ OCC.	PO/ OO	SPACE SIZE	TOTAL NET SPACE
5	OLYMPIC REGION OPERATIONS								
5A	Construction Operations								
5.01	ARA Construction	S Roark	1	1	2.1	100	PO4	210	210
5.02	Secretary Sr	D Williams	1	1	0.8	100	OO2A	80	80
5.03	Asst Construction Engr	A Revis	1	1	1.9	100	PO3	192	192
5.04	Asst Construction Engr	M Morishege	1	1	1.9	100	PO3	192	192
5.05	Construction Asst Engr	M Miner	1	1	1.2	100	OO4	120	120
5.06	Documentation	B Mathis	1	1	0.8	100	OO2A	80	80
5.07	Change Documentation	D Gasche	1	1	1	100	OO3C	96	96
5.08	Construction Trainer	M Schueffle	1	1	1.2	100	OO4	120	120
5B	Maintenance Operations								
5.10	ARA Maintenance & Ops	J Nisbet	1	1	2.1	100	PO4	210	210
5.11	Office Asst Sr	S Albertson	1	1	0.8	100	OO2A	80	80
5.12	Maintenance Mgr	D Clotfelter	1	1	1.9	100	PO3	192	192
5.13	Landscape Architect	B Barnes	1	1	1.5	100	PO2	150	150
5.14	TPS2	L Weber	1	1	0.8	100	OO2A	80	80
5.15	TPS2	vacant	1	1	0.8	100	OO2A	80	80
5.16	TPS3	E Winkley	1	1	1	100	OO3C	96	96
5.17	TPS2	C Sunstrom	1	1	0.8	100	OO2A	80	80
5.18	Maintenance Trainer	T Barnett	1	1	1.2	100	OO4	120	120
5.19	Operations Engr	C Keegan	1	1	1.9	100	PO3	192	192
5.20	Maintenance Super	R Bashon *	1	1	1.2	100	PO1	120	120
5.21	Work Zone Safety	T Liengang	1	1	1	100	OO3	96	96
5.22	Facility/Budget Mgr	S Woodruff	1	1	1.5	100	PO2	150	150
5.23	OR Facility Planner	K McMullan	1	1	1.2	100	OO4	120	120
5C	Support Areas								
5.24	Growth Work Station		2	2	1.9	100	OO3C	96	192
5.25	Reception/Waiting		1		1	100		100	100
Olympic Region Operations Sub-Total			24	32					3148

Division 5 Adjacency Notes

5A Construction Ops (5.01 - 5.08) and 5B Maintenance & Ops (5.10 - 5.23) to be adjacent.

Landscape Arch & TPS (5.13 - 5.17) to be integral with remainder of 5B Maintenance Ops.

Landscape Arch & TPS (5.13 - 5.17) to be close to small conf rm (12.05).

5.10 ARA Maint & Ops, 5.12 Maint Mgr and 5.18 Maint Trainer relate strongly to 5A Constn Ops.

5.10 ARA Maint & Ops, 5.12 Maint Mgr and 5.18 Maint Trainer to be close to large conf rm (12.03).

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SPACE			QUAN. OF SPACES	QUAN. OF EMP.	OCC. (CODE)	SF/ OCC.	PO/ OO	SPACE SIZE	TOTAL NET SPACE
6	PROGRAM MANAGEMENT								
6A	Program Manager								
6.01	OR Program Mgr	M Garman	1	1	1.9	100	PO3	192	192
6B	Office Support & Project Reporting								
6.02	Asst Program Mgr	N Thompson	1	1	1.5	100	PO2	150	150
6.03	Office Support Spclst	D Dellio	1	1	0.8	100	OO2D	80	80
6.04	Office Support Team Leader	A Sporseen	1	1	0.8	100	OO2D	80	80
6.05	Office Support Team Leader	J Blankenship	1	1	0.8	100	OO2D	80	80
6.06	Office Support Spclst	vacant	1	1	0.8	100	OO2D	80	80
6.07	Program Info Engr	R Smith	1	1	0.8	100	OO2C	80	80
6.08	Program Info Team Lead	R Scarborough	1	1	1	100	OO3C	96	96
6C	Strategic Programming								
6.09	Strategic Programming Mgr	C Deer	1	1	1.5	100	PO2	150	150
6.10	Budget Development Super	M Flynn	1	1	1.2	100	PO4	120	120
6.11	Budget Development Engr	S A Butters	1	1	0.8	100	OO2A	80	80
6.12	Systems Analysis PP Engr	C Shea	1	1	0.8	100	OO2A	80	80
6.13	Systems Analysis PP Tm Lead	T Hume-Pontius	1	1	1	100	OO3C	96	96
6D	Support Areas								
6.14	Growth Work Station		1	1	1	100	OO3C	96	96
6.16	Open Conference Area		1		1.8	100		180	180
Program Management Sub-Total			14	17					1640

Division 6 Adjacency Notes

Division 6 to be on first floor, adjacent to Regional Administration Division 1A (1.01-1.03)

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SPACE		QUAN. OF SPACES	QUAN. OF EMP.	OCC. (CODE)	SF/ OCC.	PO/ OO	SPACE SIZE	TOTAL NET SPACE
7.0 PERSONNEL, ACCOUNTING & SAFETY OFFICES								
7A OR Personnel								
7.01	Administrative Officer	B Otis	1	1	1.9	100	PO3	192
7.02	Office Asst Sr	R Sok	1	1	1.0	100	OO3A	96
7.03	Operations Tech	G Zimmerman	1	1	0.8	100	OO2C	80
7.04	Recruitment/Class Comp Spc	N Brown	1	1	1.0	100	OO3C	96
7.05	Human Resouce Consultant	vacant	1	1	0.8	100	OO2C	80
7.05	Recruitment/Class (NEW)	S Comer	1	1	0.8	100	OO2C	80
7.06	Operations Benefit Spclst	C Correa	1	1	1.0	100	OO3C	96
7B OR Financial Services								
7.10	Financial Services Mgr	M Peck	1	1	1.2	100	PO1	120
7.11	Financial Analyst 5 (Asst. Mgr)	vacant	1	1	1.0	100	OO3	96
7.12	Financial Analyst 1	R Turner	1	1	0.8	100	OO2C	80
7.13	Financial Analyst 1	vacant	1	1	0.8	100	OO2C	80
7.14	Financial Analyst 2	A Brown	1	1	0.8	100	OO2C	80
7.15	Financial Analyst 2	S Gibson	1	1	0.8	100	OO2C	80
7.16	Fiscal Tech	D Smith	1	1	0.8	100	OO2C	80
7C OR Safety Office								
7.20	Safety Officer	A Riley	1	1	1.2	100	PO1	120
7.21	Safety Officer Asst	J Franklin	1	1	0.8	100	OO2C	80
7.22	Safety Officer 1	S Rockwell	1	1	0.8	100	OO2C	80
7D Support Areas								
7.23	Growth Work Stations		2	2	1.6	100	OO2C	160
7.24	Reception/Waiting Area		1		1	100		100
7.25	Open Conference Areas		1		1.8	100		180
Administration Office Sub-Total			19	21				2056

Division 7 Adjacency Notes

All Division 7 to be located in one secured office to include file storage areas, 14.23, 14.24 and 14.25.
Division 7 to be adjacent to med conf rm (12.04).

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SPACE			QUAN. OF SPACES	QUAN. OF EMP.	OCC. (CODE)	SF/ OCC.	PO/ OO	SPACE SIZE	TOTAL NET SPACE
8 REAL ESTATE SERVICES OFFICE									
8A RES admin									
8.01	RES Manager	M. Ellis	1	1	1.9	100	PO3	192	192
8.02	RES Asst. Manager	H. Wolfe	1	1	1.2	100	PO1	120	120
8.03	Secretary Senior	R. Curl	1	1	0.8	100	OO2A	80	80
8.04	Contracts Specialist	Vacant	1	1	1	100	OO3C	96	96
8B RES Appraisal Team									
8.05	Appraisal	P. Lovgren	1	1	0.8	100	OO2C	80	80
8.06	Appraisal	G. Harmon	1	1	0.8	100	OO2C	80	80
8.07	Appraisal	C. Cross	1	1	0.8	100	OO2C	80	80
8.08	Appraisal	Vacant	1	1	0.8	100	OO2C	80	80
8.09	Appraisal Supervisor	D. Blake	1	1	1	100	OO3C	96	96
8.10	Review Appraiser	L. Turnbull	1	1	1	100	OO3C	96	96
8.11	Resource PC Area	Open	1	1	0.8	100	OO2C	80	80
8C RES Negotiations Team									
8.12	Negotiations	Moody	1	1	0.8	100	OO2C	80	80
8.13	Negotiations	Prudhomme	1	1	0.8	100	OO2C	80	80
8.14	Negotiations/Title	P. Dole	1	1	0.8	100	OO2C	80	80
8.15	Negotiations	D. Fletcher	1	1	0.8	100	OO2C	80	80
8.16	Negotiations	W. McBrady	1	1	0.8	100	OO2C	80	80
8.17	Negotiations/Title Supervisor	M. Eldridge	1	1	1	100	OO3C	96	96
8D RES Property Mgmt. Team									
8.18	Property Management	Vacant	1	1	0.8	100	OO2C	80	80
8.19	Property Management	N. Powers	1	1	0.8	100	OO2C	80	80
8.20	Property Management	D. Ivers	1	1	0.8	100	OO2C	80	80
8.21	Property Management	L. Schandel	1	1	0.8	100	OO2C	80	80
8.22	Property Management Supervisor	E. Richards	1	1	1	100	OO3C	96	96
8E RES Local Agency Coord.									
8.23	Local Agency Coordinator	S. Carver	1	1	1	100	OO3C	96	96
8F Support Areas									
8.24	Growth Work Stations		2	2	1.6	100	OO2C	80	160
8.25	Reception/Waiting Area		1		1	100		100	100
8.26	Open Conference Areas		1		1.8	100		180	180
Real Estate Services Office Sub Total			25		26				2528

Division 8 Adjacency Notes

Division 8 to be adjacent to small and med conf rms (12.04 and 12.05).

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SPACE			QUAN. OF SPACES	QUAN. OF EMP.	OCC. (CODE)	SF/ OCC.	PO/ OO	SPACE SIZE	TOTAL NET SPACE
9	DESIGN OFFICES A & B								
9A	Design Team A Office Areas								
9.01	Project Engr	S Fuchs	1	1	1.9	100	PO3	192	192
9.02	Asst Project Engr	J Elvin	1	1	1.2	100	PO1	120	120
9.03	Asst PE for SR 167	R Bennett	1	1	1.2	100	PO1	120	120
9.04	Secretary Senior	R Hall	1	1	0.8	100	OO2A	80	80
9A1	Team 1								
9.05	Design Engr	S. Leiren	1	1	0.8	100	OO2C	80	80
9.06	Design Engr	J Boehme	1	1	0.8	100	OO2C	80	80
9.07	Design Engr	L Boetcher	1	1	0.8	100	OO2C	80	80
9.08	Design Engr	C Langhoff	1	1	0.8	100	OO2C	80	80
9.09	Design Engr	R Dahl	1	1	0.8	100	OO2C	80	80
9.10	Design Team Leader	T Armon	1	1	1	100	OO3C	96	96
9.11	Design Team Leader	R Bhalla	1	1	1	100	OO3C	96	96
9.12	Design Tech	S Williams	1	1	0.8	100	OO2C	80	80
9A2	Team 2								
9.13	Design Engr	T Horton	1	1	0.8	100	OO2C	80	80
9.14	Design Engr	S Oh	1	1	0.8	100	OO2C	80	80
9.15	Design Engr	C Carrico	1	1	0.8	100	OO2C	80	80
9.16	Design Engr	D Ireland	1	1	0.8	100	OO2C	80	80
9.17	Design Team Leader	E Yates	1	1	1	100	OO3C	96	96
9.18	Design Tech	M Halford	1	1	0.8	100	OO2C	80	80
9.19	Design Tech	vacant	1	1	0.8	100	OO2C	80	80
9A3	Team 3								
9.20	Design Engr	D Nelson	1	1	0.8	100	OO2C	80	80
9.21	Design Engr	B Schlechten	1	1	0.8	100	OO2C	80	80
9.22	Design Engr	S Gowan	1	1	0.8	100	OO2C	80	80
9.23	Design Team Leader	J Petterson	1	1	1	100	OO3C	96	96
9.24	Design Tech	A. Moore	1	1	0.8	100	OO2C	80	80
9.25	Design Tech	vacant	1	1	0.8	100	OO2C	80	80
9A4	Team 4								
9.26	Design Engr	vacant	1	1	0.8	100	OO2C	80	80
9.27	Design Team Leader	J Perez	1	1	1	100	OO3C	96	96
9.28	Design Tech	P Dana	1	1	0.8	100	OO2C	80	80
9.29	Design Tech	J Childress	1	1	0.8	100	OO2C	80	80
9A5	Survey Crew								
9.30	Survey Team Leader	N Jacobs	1	1	0.8	100	OO2C	80	80
9.31	Survey Tech	S Anderson	1	1	0.5	100	OO1	48	48
9.32	Survey Tech	M Lensegrav	1	1	0.5	100	OO1	48	48
9A6	Design Team A Support Areas								
9.33	Growth Work Stations		3	3	2.9	100	OO3C	96	288
9.34	Reception/Waiting Area		1		1	100		100	100
9.35	Open Conference Areas		2		3.6	100		180	360

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9	DESIGN OFFICES A & B (continued)								
9B	Design Team B Office Areas								
9.50	Asst. PE	J Schueler	1	1	1.2	100	PO1	120	120
9.51	Asst. PE	J Ho	1	1	1.2	100	PO1	120	120
9.52	Project Engineer	G Roycroft	1	1	1.9	100	PO3	192	192
9.53	Secretary Senior	D Maasjo	1	1	0.8	100	OO2A	80	80
9B1	Team 1								
9.54	Design Engineer	S Etienne	1	1	0.8	100	OO2B	80	80
9.55	Design Engineer	P Reyes	1	1	0.8	100	OO2B	80	80
9.56	Design Engineer	K Anderson	1	1	0.8	100	OO2B	80	80
9.57	Design Engineer	N Bennett	1	1	0.8	100	OO2B	80	80
9.58	Design Engineer	J Gonzales	1	1	0.8	100	OO2B	80	80
9.59	Design Engineer	J Varady	1	1	0.8	100	OO2B	80	80
9.60	Design Engineer	S Cheung	1	1	0.8	100	OO2B	80	80
9.61	Design Supervisor	J Metcalf	1	1	1	100	OO3B	96	96
9.62	Design Supervisor	B Register	1	1	1	100	OO3B	96	96
9.63	Design Technician	E Quinn	1	1	1	100	OO3B	96	96
9.64	Design Technician	A Sutton	1	1	0.8	100	OO2B	80	80
9B2	Team 2								
9.65	Design Engineer	T Sprouffs	1	1	0.8	100	OO2B	80	80
9.66	Design Engineer	M Kwiatkowski	1	1	0.8	100	OO2B	80	80
9.67	Design Engineer	M Roos	1	1	0.8	100	OO2B	80	80
9.68	Design Supervisor	J Romero	1	1	1	100	OO3B	96	96
9.69	Design Technician	A Dorrough	1	1	0.8	100	OO2B	80	80
9.70	Design Technician	Vacant	1	1	0.8	100	OO2B	80	80
9B3	Team 3								
9.71	Design Engineer	T Meacham	1	1	0.8	100	OO2B	80	80
9.72	Design Engineer	C Kuntz	1	1	0.8	100	OO2B	80	80
9.73	Design Engineer	C Maloney	1	1	0.8	100	OO2B	80	80
9.74	Design Engineer	D Wilder	1	1	0.8	100	OO2B	80	80
9.75	Design Engineer	G Carr	1	1	0.8	100	OO2B	80	80
9.76	Design Supervisor	M Smith	1	1	1	100	OO3B	96	96
9.77	Design Supervisor	Vacant	1	1	1	100	OO3B	96	96
9.78	Design Technician	T Kerr	1	1	0.8	100	OO2B	80	80
9.79	Design Technician	Vacant	1	1	0.8	100	OO2B	80	80
9B4	Survey Crew								
9.80	Party Chief	Vacant	1	1	0.8	100	OO2C	80	80
9.81	Chief of Parties	M Carl	1	1	1	100	OO3B	96	96
9.82	Survey Technician	S Yokel	1	1	0.8	100	OO2C	80	80
9.83	Instrument Person	Vacant	1	1	0.8	100	OO2C	80	80
9B5	Design Team B Support Areas								
9.84	Growth Work Stations		3	3	2.4	100	OO2C	80	240
9.85	Reception/Waiting Area		1		1	100		100	100
9.86	Open Conference Areas		2		3.6	100		180	360
Design Offices A & B Sub-Total				72	73				7240

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9 DESIGN OFFICES A & B (continued)

Division 9 Adjacency Notes

Division 9 to be on first or second floor.

Design Team A, Division 9A (9.01 - 9.38), to be adjacent to Design Team B, Division 9B (9.50 - 9.87).

Design Team A, Division 9A (9.01 - 9.38), to be adjacent to large divisible conf rm (12.03).

Design Team B, Division 9B (9.50 - 9.87), to be adjacent to large divisible conf rm (12.03).

Team A & B to be adjacent to copy/plotter/workroom.

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10 CONSTRUCTIONS OFFICES A & B									
10A Construction Team A Admin									
10.01	Project Engr	J McNutt	1	1	1.9	100	PO3	192	192
10.02	Asst Project Engr	N Uhlmeyer	1	1	1.2	100	PO1	120	120
10.03	Secretary Senior	P Giffin	1	1	0.8	100	OO2A	80	80
10.04	Asst Project Engr	vacant	1	1	1.2	100	PO1	120	120
10A1 Team 1									
10.05	Field/Design Engr	P Townsend	1	1	1	100	OO3C	96	96
10.06	CADD/Tester	K Workman	1	1	0.8	100	OO2C	80	80
10.07	Designer/Inspector	vacant	1	1	0.8	100	OO2C	80	80
10.08	Designer/Inspector	M Kinion	1	1	0.8	100	OO2C	80	80
10.09	Designer/Inspector	T Barton III	1	1	0.8	100	OO2C	80	80
10.10	CADD/Tester	vacant	1	1	0.8	100	OO2C	80	80
10A2 Team 2									
10.11	Field/Design Engr	M Hoffman	1	1	1	100	OO3C	96	96
10.12	Designer/Inspector	vacant	1	1	0.8	100	OO2C	80	80
10.13	Designer/Inspector	S Shannon	1	1	0.8	100	OO2C	80	80
10.14	Designer/Inspector	C Harper	1	1	0.8	100	OO2C	80	80
10.15	CADD/Tester	K McCoy	1	1	0.8	100	OO2C	80	80
10.16	CADD/Tester	R Dodd	1	1	0.8	100	OO2C	80	80
10A3 Team 3									
10.17	Office Engr	J Terry	1	1	1	100	OO3C	96	96
10.18	Survey	W Ring	1	1	0.8	100	OO2D	80	80
10.19	Survey Party Chief	P Rathbun	1	1	0.8	100	OO2D	80	80
10.20	Records	A Hahn	1	1	0.8	100	OO2D	80	80
10.21	CADD/Tester	J Odell	1	1	0.8	100	OO2D	80	80
10.22	Materials Documentation	M Carson	1	1	0.8	100	OO2C	80	80
10.23	Survey	vacant	1	1	0.8	100	OO2C	80	80
10.24	Design/Inspector	D Young	1	1	0.8	100	OO2C	80	80
10A4 Team 4									
10.25	Field/Design Engr	M McConnon	1	1	1	100	OO3C	96	96
10.26	Designer/Inspector	vacant	1	1	0.8	100	OO2C	80	80
10.27	Designer/Inspector	S Lucero	1	1	0.8	100	OO2C	80	80
10.28	Designer/Inspector	C Ehresmann	1	1	0.8	100	OO2C	80	80
10.29	Designer/Inspector	J Feil	1	1	0.8	100	OO2C	80	80
10.30	CADD/Tester	L Stueve	1	1	0.8	100	OO2C	80	80
10A5 Construction Team A Support									
10.31	Growth Work Stations		3	3	2.4	100	OO2C	80	240
10.32	Reception/Waiting Area		1		1	100		100	100
10.33	Reference Area		1	1	0.8	100	OO2C	80	80
10.34	Open Conference Areas		2		3.6	100		180	360

Section V—Space Needs Program

2. Administrative Office Program

C. Space Needs

2. Detailed Space Requirements

WSDOT

OLYMPIC REGION HEADQUARTERS PRELIMINARY OFFICE PROGRAM

SPACE			QUAN. OF SPACES	QUAN. OF EMP.	OCC. (CODE)	SF/ OCC.	PO/ OO	SPACE SIZE	TOTAL NET SPACE
10	CONSTRUCTION OFFICES A & B (continued)								
10B	Construction Team B								
10.50	Project Engr	T Cowan	1	1	1.9	100	PO3	192	192
10.51	Asst Project Engr	vacant	1	1	1.2	100	PO1	120	120
10.52	Asst Project Engr	vacant	1	1	1.2	100	PO1	120	120
10.53	Secretary Sr	K Blayney	1	1	0.8	100	OO2A	80	80
10B1	Design Team								
10.53	Designer/Inspector	J Heusman	1	1	0.8	100	OO2D	80	80
10.54	Designer/Inspector	S Etienne	1	1	0.8	100	OO2D	80	80
10.55	Designer/Inspector	B Johnson	1	1	0.8	100	OO2B	80	80
10.56	Design	B Kramer	1	1	0.8	100	OO2B	80	80
10.57	Design	R Bailey	1	1	0.8	100	OO2B	80	80
10.58	Team Leader	vacant	1	1	1	100	OO3B	96	96
10.59	Team Leader	J Klockenteger	1	1	1	100	OO3B	96	96
10.60	Tech	vacant	1	1	0.8	100	OO2D	80	80
10.61	Tech	T Kelly	1	1	0.8	100	OO2D	80	80
10B2	Materials Documentation								
10.62	Designer/Inspector	A Kramer	1	1	0.8	100	OO2B	80	80
10.63	Materials Documentation	S VanMieghem	1	1	0.8	100	OO2B	80	80
10.64	Team Leader	P O'Hagan	1	1	1	100	OO3B	96	96
10.65	Tech	L Jensen	1	1	0.8	100	OO2B	80	80
10B3	Core CN Team								
10.66	Designer/Inspector	vacant	1	1	0.8	100	OO2B	80	80
10.67	Designer/Inspector	J Loescher	1	1	0.8	100	OO2B	80	80
10.68	Team Leader	D Hitchcock	1	1	1	100	OO3B	96	96
10.69	Tech	S Oliver	1	1	0.8	100	OO2B	80	80
10.70	Tech	M Arneson	1	1	0.8	100	OO2B	80	80
10.71	Tech	J Richards	1	1	0.8	100	OO2B	80	80
10.72	Tech	B Berry	1	1	0.8	100	OO2B	80	80
10.73	Tech	D Rich	1	1	0.8	100	OO2B	80	80
10.74	Tech	vacant	1	1	0.8	100	OO2D	80	80
10.75	Tech	vacant	1	1	0.8	100	OO2D	80	80
10B4	Survey								
10.76	Survey Party Chief	A Sanderson	1	1	0.8	100	OO2C	80	80
10.77	Survey Crew Tech	C Young	1	1	0.8	100	OO2C	80	80
10.78	Survey Crew Tech	E Loper	1	1	0.8	100	OO2C	80	80
10B5	Construction Team B Support								
10.79	Growth Work Stations		3	3	2.9	100	OO3B	96	288
10.80	Reference Area		1		0.8	100	OO2C	80	80
10.81	Reception/Waiting Area		1		1	100		100	100
10.82	Open Conference Areas		2		3.6	100		180	360
Construction Offices A & B Sub-Total				67	69				6920

Division 10 Adjacency Notes

Division 10 to be on first floor near the rear building entry and adjacent to Locker Rooms (15.11).

Division 10 should incorporate shared file space (14.34 through 14.39).

Division 10 to be adjacent to a medium size conference room (12.04).

Section V—Space Needs Program

2. Administrative Office Program

C. Space Needs

2. Detailed Space Requirements

WSDOT

OLYMPIC REGION HEADQUARTERS PRELIMINARY OFFICE PROGRAM

SPACE		QUAN. OF SPACES	QUAN. OF EMP.	OCC. (CODE)	SF/ OCC.	PO/ OO	SPACE SIZE	TOTAL NET SPACE
11 TRAFFIC								
11A Traffic Engineering Branch								
11.01	Traffic Engr	S Kim	1	1	1.9	100	PO3	192
11.02	Office Supply Supv 2	M Diseth	1	1	0.8	100	OO2A	80
11.03	Office Asst	vacant	1	1	0.8	100	OO2A	80
11.04	Secretary Senior	T Prill	1	1	0.8	100	OO2A	80
11B Traffic Design Branch								
11.10	Traffic Design Engineer	M Villnave	1	1	1.5	100	PO2	150
11.11	Traffic Analysis Engr	L Hosek	1	1	1.2	100	OO4	120
11.12	Safety Analysis	P Smith	1	1	0.8	100	OO2B	80
11.13	Safety Analysis	D Perry	1	1	1	100	OO3B	96
11.14	Traffic Analysis	T Zoebel	1	1	1	100	OO3B	96
11.15	Traffic Analysis	vacant	1	1	0.8	100	OO2B	80
11.16	Traffic Analysis	R Peterson	1	1	0.8	100	OO2B	80
11.17	Traffic Analysis	J Norman	1	1	1	100	OO3B	96
11.18	Asst Traffic Design	R Reyes	1	1	1.2	100	PO1	120
11.19	Special Design ITS	B Burke	1	1	1	100	OO3B	96
11.20	Special Design ITS	vacant	1	1	0.8	100	OO2B	80
11.21	Special Design ITS	vacant	1	1	0.8	100	OO2B	80
11.22	Special Design ITS	K Wakjira	1	1	0.8	100	OO2B	80
11.23	Special Design ITS	vacant	1	1	0.8	100	OO2B	80
11.24	Traffic Design	D Wentz	1	1	1	100	OO3B	96
11.25	Traffic Design	T Benton	1	1	0.8	100	OO2B	80
11.26	Traffic Design	J Smith	1	1	0.8	100	OO2B	80
11.27	Traffic Design	E Donely	1	1	0.8	100	OO2B	80
11.28	Traffic Design	S Roediger	1	1	1	100	OO3B	96
11.29	Traffic Design	F Blakely	1	1	0.8	100	OO2B	80
11.30	Traffic Design	H Giang	1	1	0.8	100	OO2B	80
11.31	TE 1 Rotation	C Langford	1	1	0.8	100	OO2B	80
11.32	Traffic Design	A Simons	1	1	0.8	100	OO2B	80
11.33	Asst Traffic Design	S Haapala	1	1	1.2	100	PO1	120
11.34	Special Design SSI	J Merry	1	1	1	100	OO3B	96
11.35	Special Design SSI	N Knecht	1	1	0.8	100	OO2B	80
11.36	Special Design TC	C Compton	1	1	1	100	OO3B	96
11.37	Special Design TC	W Knowlen	1	1	0.8	100	OO2B	80
11.38	Special Design TC	vacant	1	1	0.8	100	OO2B	80
11.39	Growth Work Stations		3	3	2.4	100	OO2B	240

Section V—Space Needs Program
2. Administrative Office Program
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WSDOT

OLYMPIC REGION HEADQUARTERS PRELIMINARY OFFICE PROGRAM

SPACE			QUAN. OF SPACES	QUAN. OF EMP.	OCC. (CODE)	SF/ OCC.	PO/ OO	SPACE SIZE	TOTAL NET SPACE
11	TRAFFIC	(Continued)							
11C	Traffic Operations Branch								
11.40	Traffic Operations Engr	S Bennett	1	1	1.5	100	PO2	150	150
11.41	Operations	W Wutzke	1	1	1	100	OO3B	96	96
11.42	MIS/OAC	G Nelson	1	1	0.8	100	OO2B	80	80
11.43	MIS/OAC	D Lindsey	1	1	0.8	100	OO2B	80	80
11.44	Special Studies	E Sharp	1	1	0.8	100	OO2B	80	80
11.45	Special Design	vacant	1	1	0.8	100	OO2B	80	80
11.46	Traffic Studies	R Symes	1	1	0.8	100	OO2B	80	80
11.47	Traffic Studies	K Kirkendall	1	1	0.8	100	OO2B	80	80
11.48	OPS Design Engr	vacant	1	1	0.8	100	OO2B	80	80
11.49	CAD Operator	vacant	1	1	0.8	100	OO2B	80	80
11.50	Op Review Area	L McBee	1	1	1	100	OO3B	96	96
11.51	Op Review Area	J Moore	1	1	1	100	OO3B	96	96
11.52	Ops Review	vacant	1	1	0.8	100	OO2B	80	80
11.54	Ops Review	vacant	1	1	0.8	100	OO2B	80	80
11.55	Ops Review	S Davis	1	1	0.8	100	OO2B	80	80
11.56	Ops Review	B Mauerman	1	1	0.8	100	OO2B	80	80
11.57	Ops Review	D Brewer	1	1	0.8	100	OO2B	80	80
11.60	Ops Review	B Bond	1	1	0.8	100	OO2B	80	80
11.61	TEI Rotation (Ops)	vacant	1	1	0.8	100	OO2B	80	80
11.62	Growth Work Stations		2	2	1.6	100	OO2B	80	160
11D	Traffic Support Areas								
11.63	Reception/Waiting Area		1		1	100		100	100
11.64	Open Conference Areas		3		5.4	100		180	540
Traffic Sub-Total				57	58				5748

Division 11 Adjacency Notes

Division 11 to have close proximity to a large conf rm (12.03).

Section V—Space Needs Program
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OLYMPIC REGION HEADQUARTERS PRELIMINARY OFFICE PROGRAM

SPACE	QUAN. OF SPACES	QUAN. OF EMP.	OCC. (CODE)	SF/ OCC.	PO/ OO	SPACE SIZE	TOTAL NET SPACE
12 CONFERENCE ROOMS							
12.01 Large Conf/Board Rm/Divisible	1		200	15		3000	3000
12.02 Computer Training/OR EOC	1		53.3	15		800	800
12.03 Large Divisible Conf Rooms	2		72	15		540	1080
12.04 Medium Conf Room	4		72	15		270	1080
12.05 Small Conf Rms	6		72	15		180	1080
12.06 Library/resource/work room	2		26.6	15		200	400
Conference Sub-Total	16		496				7440

Division 12 Notes

Spaces 12.06, library/resource/work rooms, are to be located one per floor. If the building is three floors or more, additional spaces are to be added. The spaces are to have bookcases and small conference tables.

13 COPY/PLOTTER/WORK ROOMS

13.01 Div 4 Printing Services	1		5.6	100		560	560
13.02 Shipping/Receiving/Mail Rm	1		4	100		400	400
13.03 Supply/copy/printer/plotter work rooms	7.5		16.3	100		300	2250
Copy/Plotter/Work Room Sub-Total	9.5		26				3210

Division 13 Notes

Spaces 13.01 and 13.02 may be combined into a single ground floor space of 960 SF.

Space 13.01, printing services, may be used as one of the requested ground floor supply/copy/printer/plotter work rooms.

Spaces 13.03, supply/copy/printer/plotter work rooms, are to be located 2 per floor. If the project is three floors or more, one or more additional spaces may be required.

Section V—Space Needs Program

2. Administrative Office Program

C. Space Needs

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OLYMPIC REGION HEADQUARTERS PRELIMINARY OFFICE PROGRAM

SPACE	ASSOCIATED DIVISION	QUAN. OF SPACES	QUAN. OF EMP.	OCC. (CODE)	SF/ OCC.	PO/ OO	SPACE SIZE	TOTAL NET SPACE
14 FILE/STORAGE SPACE								
14.01 Tab shelving, 6 levels	Division 1A				300		6	6
14.02 Tab shelving, 6 levels	Division 1B				300		5	5
14.03 Tab shelving, 6 levels	Division 1C				300		8	8
14.04 Tab shelving, 6 levels	Division 2B				300		23	23
14.05 Tab shelving, 6 levels	Division 2C				300		58	58
14.06 Tab shelving, 6 levels	Division 2D				300		36	36
14.07 Tab shelving, 6 levels	Division 3				300		20	20
14.08 Tab shelving, 6 levels	Division 4A				300		81	81
14.09 Tab shelving, 6 levels	Division 4B				300		8	8
14.10 Special table for hanging files	Division 4C				300		55	55
14.11 Tab shelving, 6 levels	Division 4C				300		38	38
14.12 Flat plan storage 4 cabinets	Division 4D				300		58	58
14.13 Tab shelving, 6 levels	Division 4D				300		133	133
14.14 Tab shelving, 6 levels	Division 4D1				300		12	12
14.15 Flat plan storage 2 cabinets	Division 4E				300		29	29
14.16 Tab shelving, 6 levels	Division 4E				300		109	109
14.17 Flat plan storage 2 cabinets	Division 5A				300		29	29
14.18 Tab shelving, 6 levels	Division 5A				300		119	119
14.19 Large display boards 6' deep	Division 5B				300		24	24
14.20 Flat plan storage 1 cabinet	Division 5B				300		12	12
14.21 Tab shelving, 6 levels	Division 5B				300		17	17
14.22 Tab shelving, 6 levels	Division 6				300		39	39
14.23 Tab shelving, 6 levels	Division 7A				300		47	47
14.24 Tab shelving, 6 levels	Division 7B				300		142	142
14.25 Tab shelving, 6 levels	Division 7C				300		39	39
14.26 Vertical map storage 2 units	Division 8				300		8	8
14.27 Tab shelving, 6 levels	Division 8				300		53	53
14.28 Flat plan storage	Division 9A				300		36	36
14.29 Tab shelving, 6 levels	Division 9A				300		60	60
14.30 Large display boards 6' deep	Division 9B				300		16	16
14.31 Flat plan storage	Division 9B				300		18	18
14.32 Tab shelving, 6 levels	Division 9B				300		62	62
14.33 Nuclear gauge storage	Division 10				300		300	300
14.34 Equipment storage	Division 10A				300		300	300
14.35 Tab shelving, 6 levels	Division 10A				300		91	91
14.36 Equipment storage	Division 10B				300		300	300
14.37 Container storage, 6 levels	Division 10B				300		38	38
14.38 Flat plan storage 2 units	Division 10B				300		16	16
14.39 Tab shelving, 6 levels	Division 10B				300		57	57
14.40 Tab shelving, 6 levels	Division 11A				300		18	18
14.42 Flat plan storage 1 unit	Division 11B				300		12	12
14.43 Tab shelving, 6 levels	Division 11B				300		77	77
14.44 Tab shelving, 6 levels	Division 11C				300		23	23
File/Storage Sub-Total					9		300	2632

Division 14 Notes

All Tab storage to be mobile/modular file system.

All Division 14 storage to be located with each associated division.

Space 14.25, storage room for Division 7C, requires a counter top and utility sink.

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2. Administrative Office Program
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WSDOT

OLYMPIC REGION HEADQUARTERS PRELIMINARY OFFICE PROGRAM

SPACE	ASSOCIATED DIVISION	QUAN. OF SPACES	QUAN. OF EMP.	OCC. (CODE)	SF/ OCC.	PO/ OO	SPACE SIZE	TOTAL NET SPACE
15 BUILDING SUPPORT								
15.01 Loading Dock		1		1	300		300	300
15.02 Dumpster		1		0.5	300		150	150
15.03 Recyclable Storage		1		0.5	300		150	150
15.04 Building Reception		2	2	1.9	100	OO3A	96	192
15.05 Building Reception/Waiting Area		1		3	100		300	300
15.06 Employee Lunch Room		1		50	15		750	750
15.07 Coffee Bars/Break Areas		8		8	100		100	800
15.08 Communication Rms		7		7	100		100	700
15.09 Facilities Mgr/Facility Service Coordinator		1	1	1.2	100	PO1	120	120
15.10 Radio Room		1		1.5	100	PO2	150	150
15.11 Locker Rooms		2		6	100		300	600
Building Support Sub-Total			3	81				4212

Section V—Space Needs Program

2. Administrative Office Program

D. Relationships

D. Relationships:

Refer to the adjacency matrix and the adjacency bubble diagrams below for information related to planning the Administrative Office Building. Note in the adjacency matrix below that some office groups require first floor occupancy.

Section V—Space Needs Program
2. Administrative Office Program
D. Relationships

**ARCHITECTURAL PROGRAMMING FOR
WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
OLYMPIC REGION HEADQUARTERS**
Marvin Road NE, Lacey, WA

1 / 14 / 0

MSGS Architects

Adjacency Matrix

A Co-Locate with
B Locate Adjacent
C Locate in Some Proximity
X Locate Away From

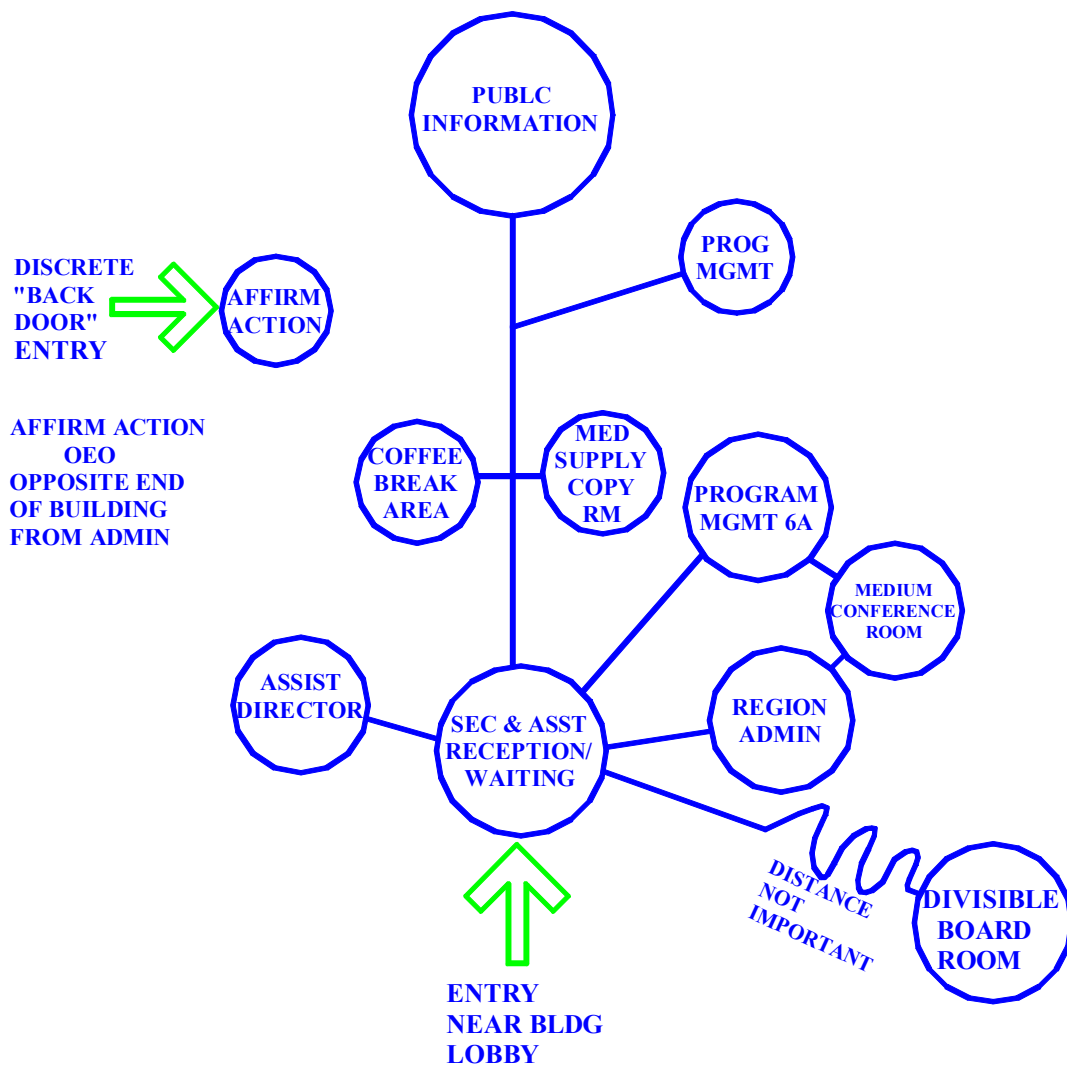
- 1 Locate on Ground Floor
- 2 Locate on Upper Floor

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Section V—Space Needs Program
2. Administrative Office Program
D. Relationships

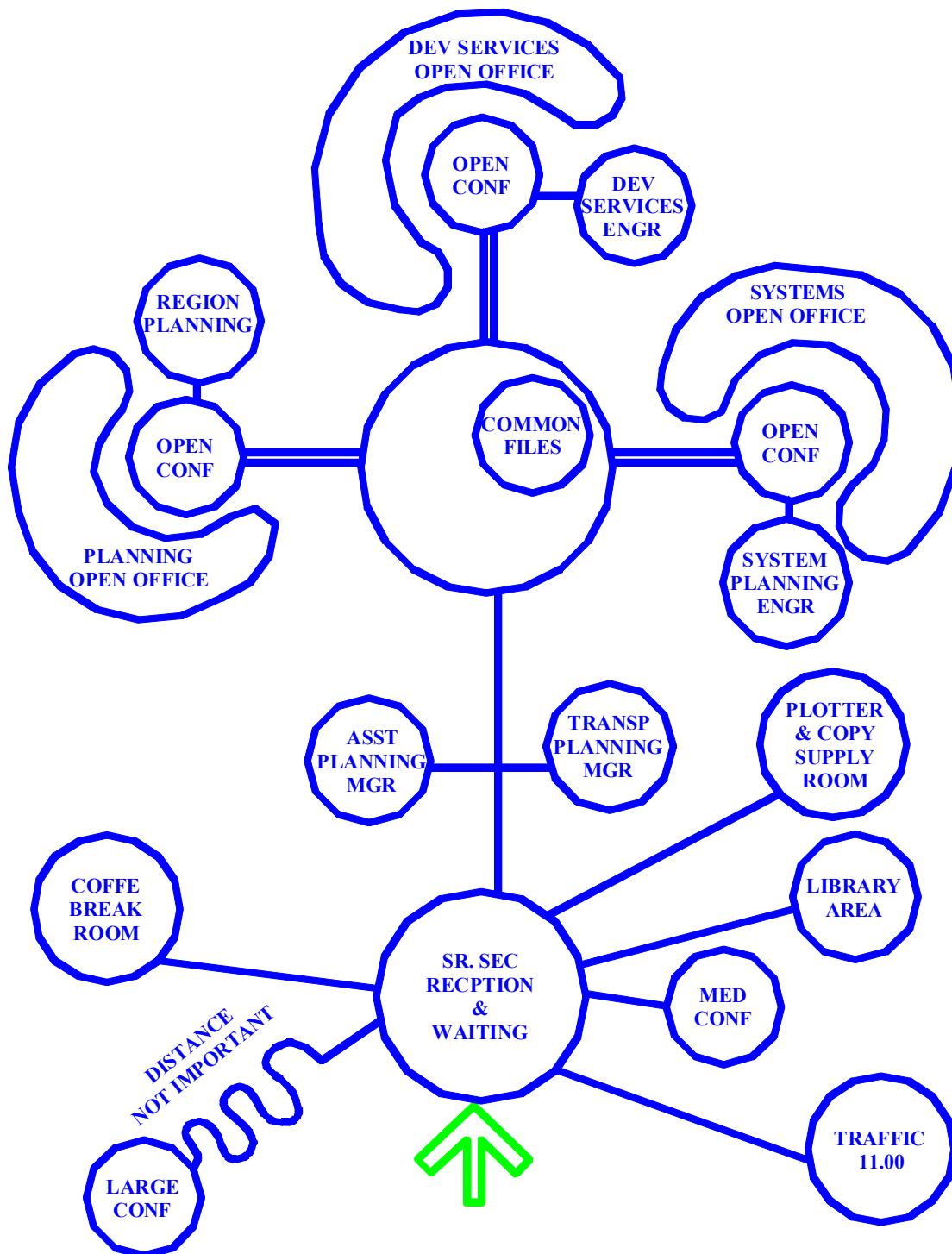
1) Intra-Divisional Bubble Diagrams:

DIV 1
OLYMPIC REGION ADMINISTRATION

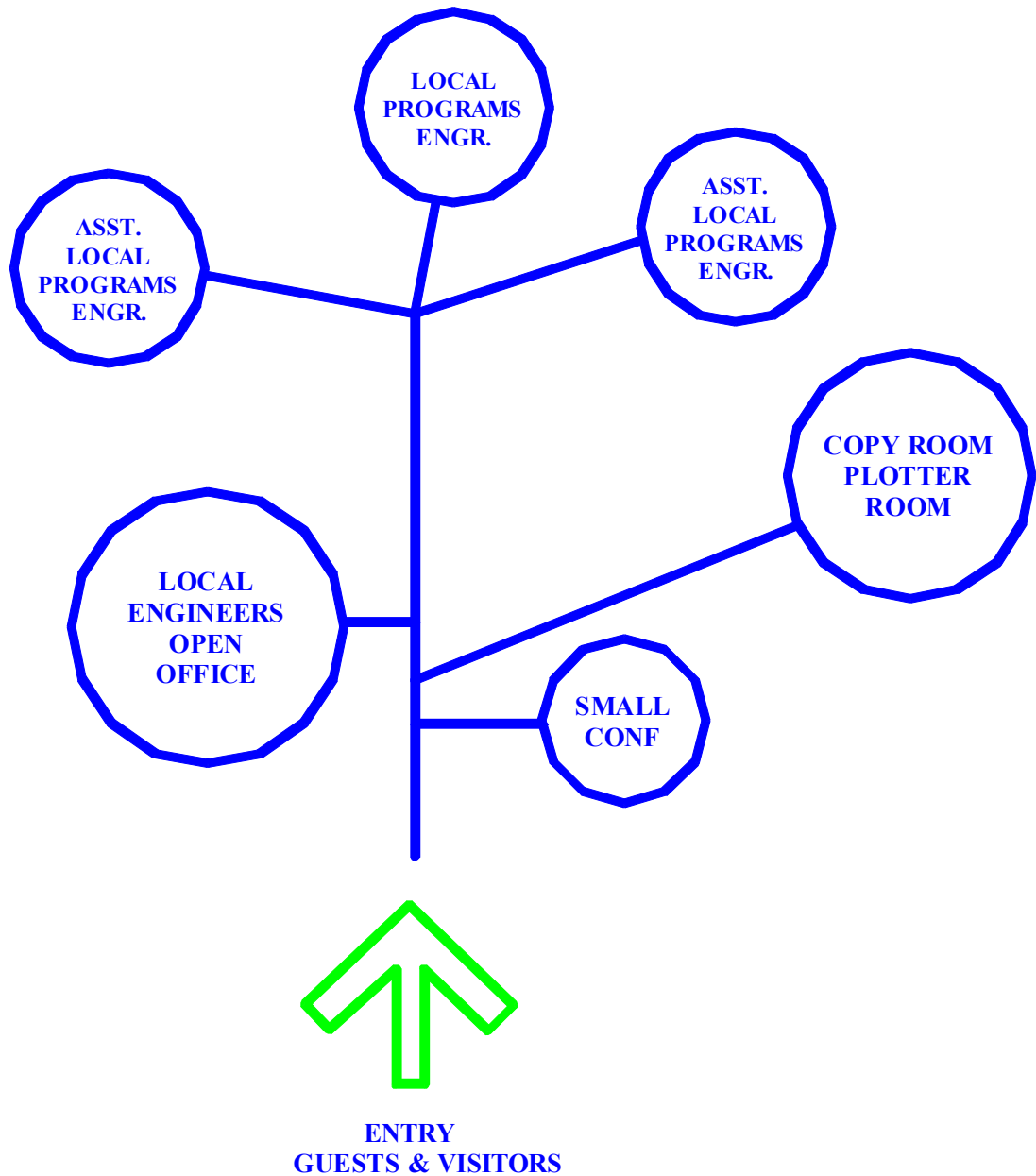


Section V—Space Needs Program
2. Administrative Office Program
D. Relationships

DIV 2 TRANSPORTATION PLANNING OFFICE



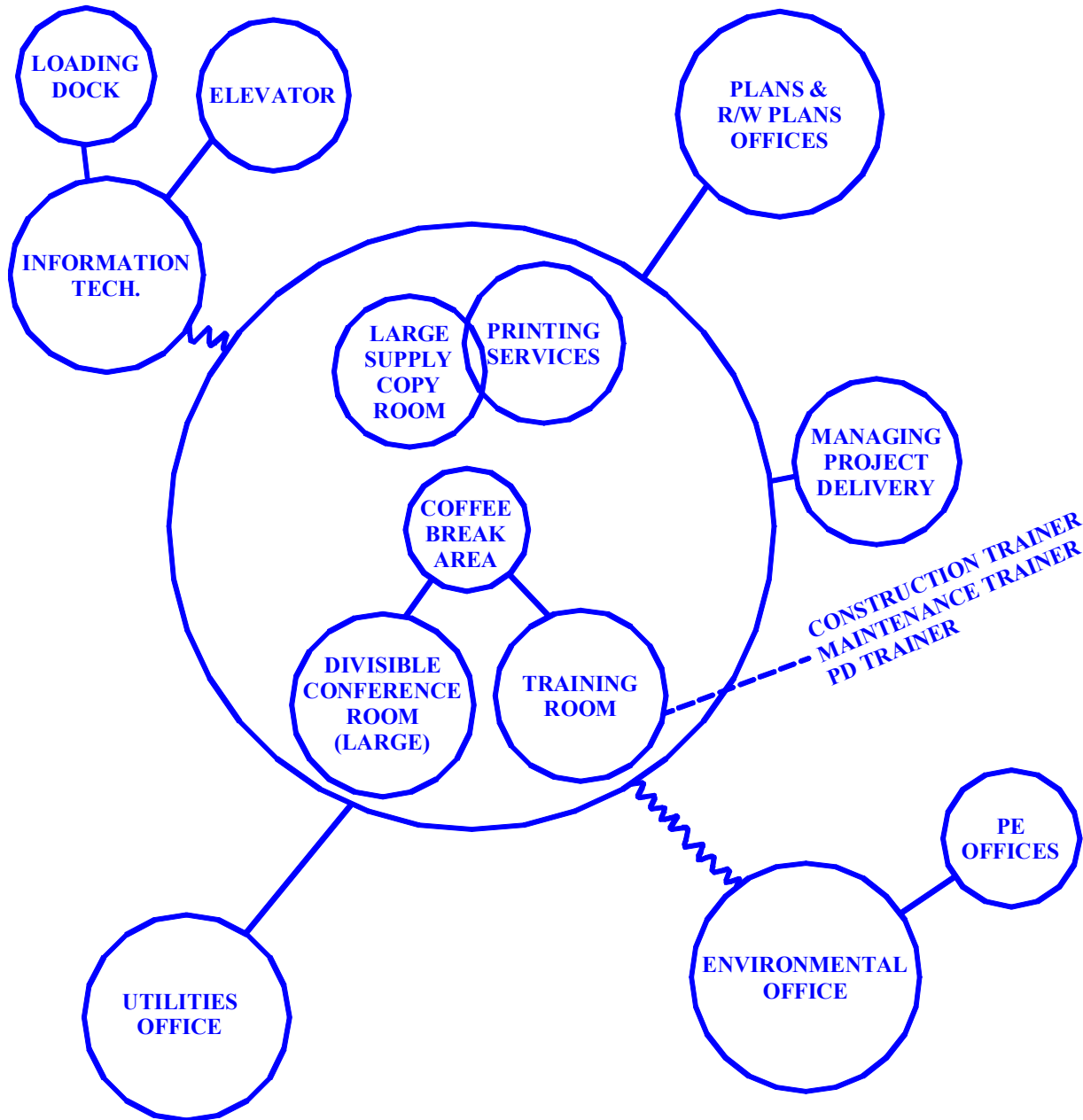
DIV 3 LOCAL PROGRAMS



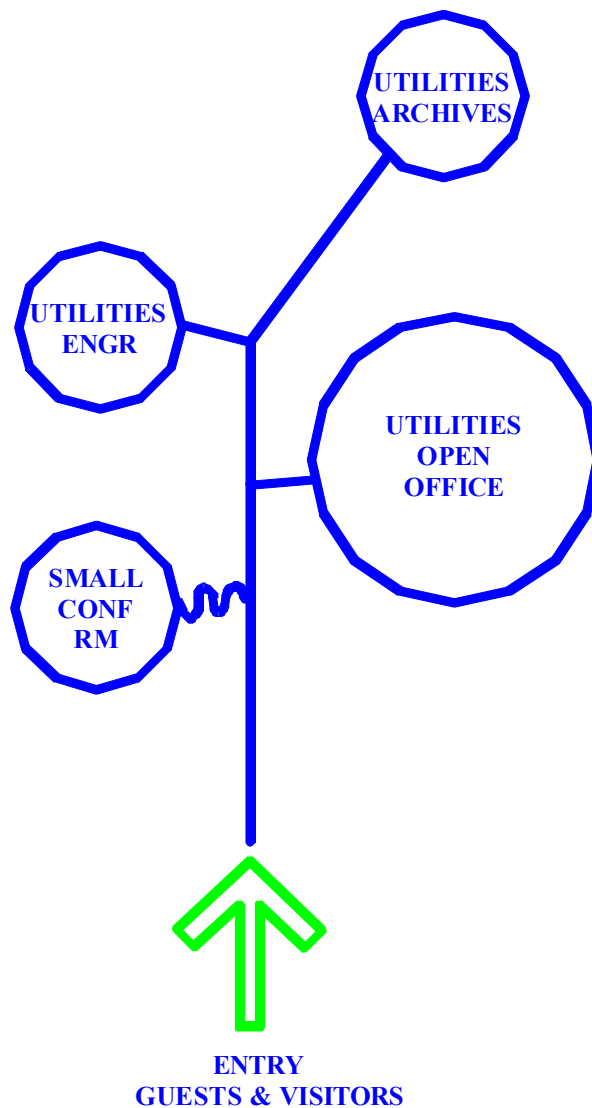
NOT NECESSARILY FIRST FLOOR
BUT PROVIDE EASY ACCESS
FOR GUESTS & VISITORS

Section V—Space Needs Program
2. Administrative Office Program
D. Relationships

DIV 4 PROJECT DEVELOPMENT OFFICE



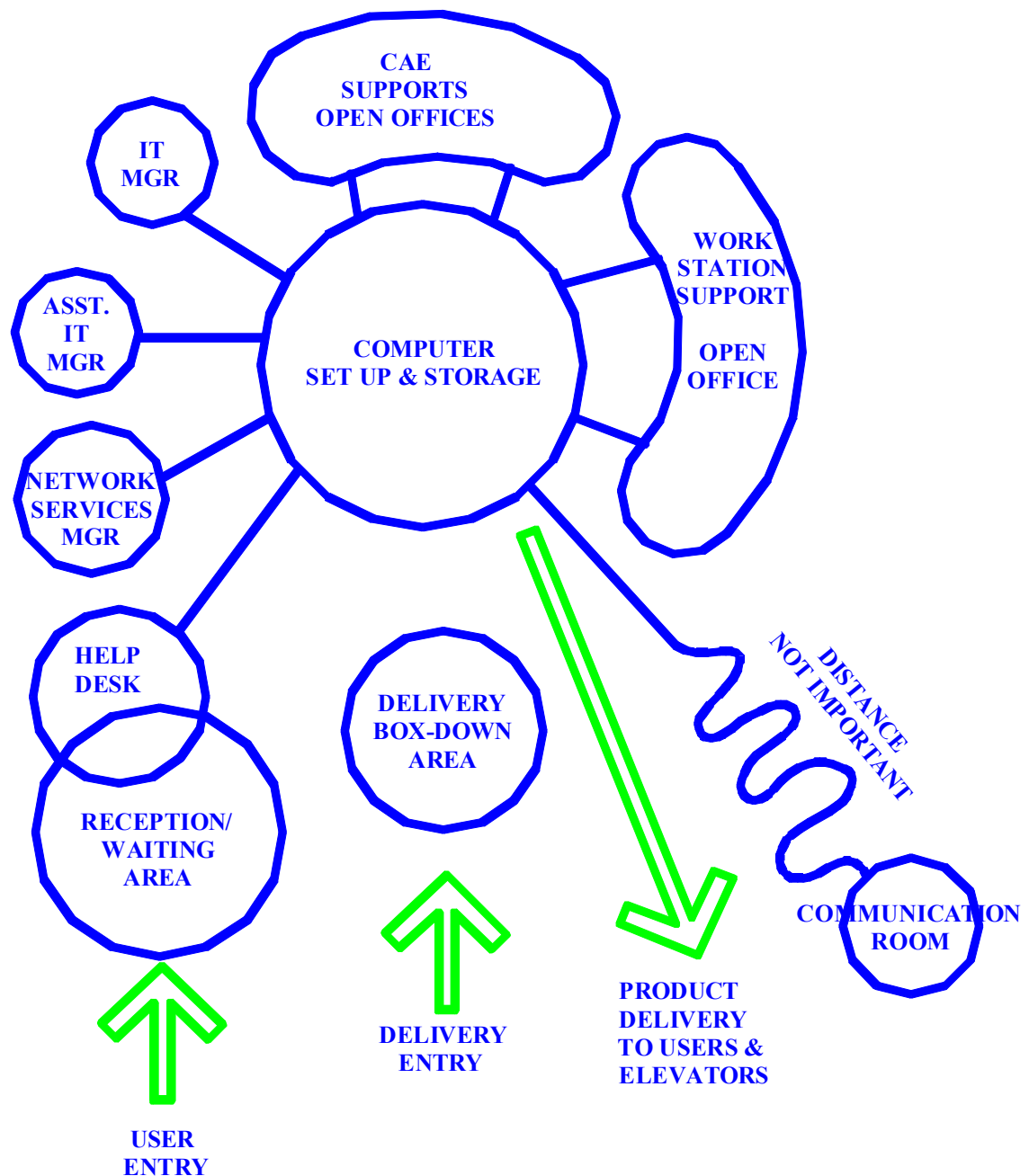
DIV 4A PROJECT DEVELOPMENT OFFICE UTILITIES OFFICE



NOT NECESSARY TO BE
NEAR ANYONE

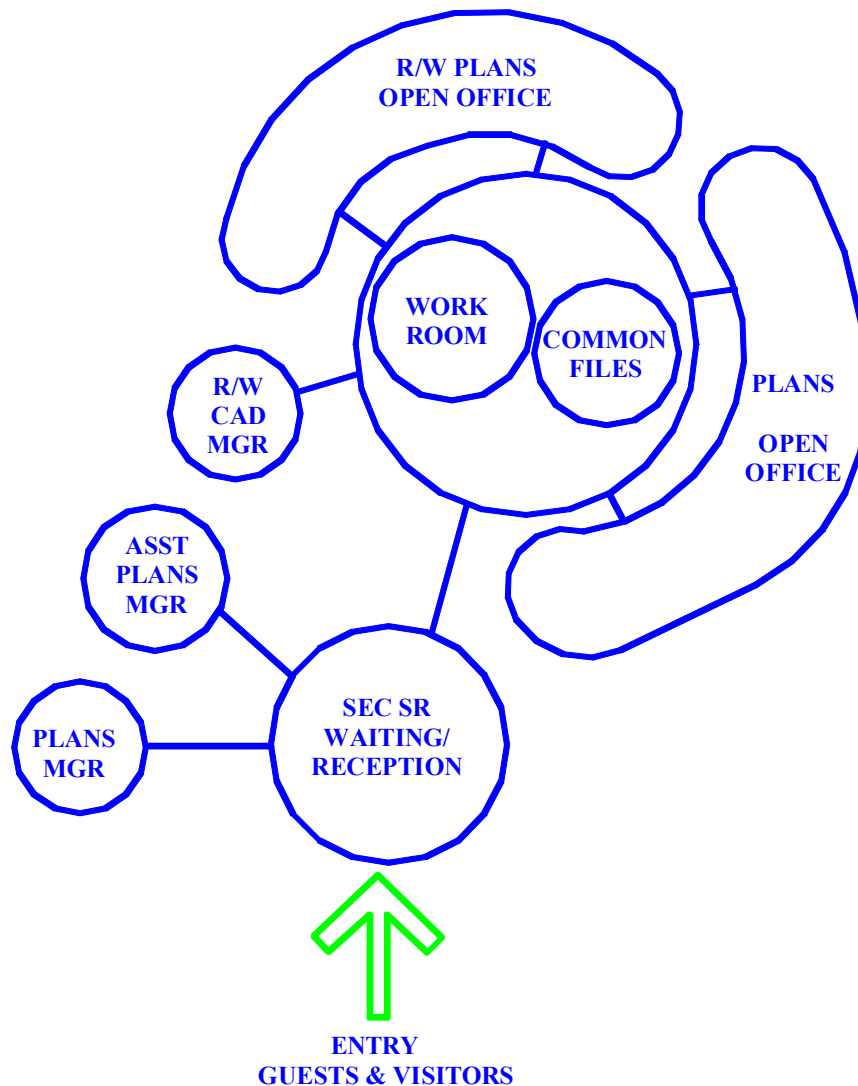
Section V—Space Needs Program
2. Administrative Office Program
D. Relationships

DIV 4B PROJECT DEVELOPMENT OFFICE INFORMATION TECHNOLOGY



Section V—Space Needs Program
2. Administrative Office Program
D. Relationships

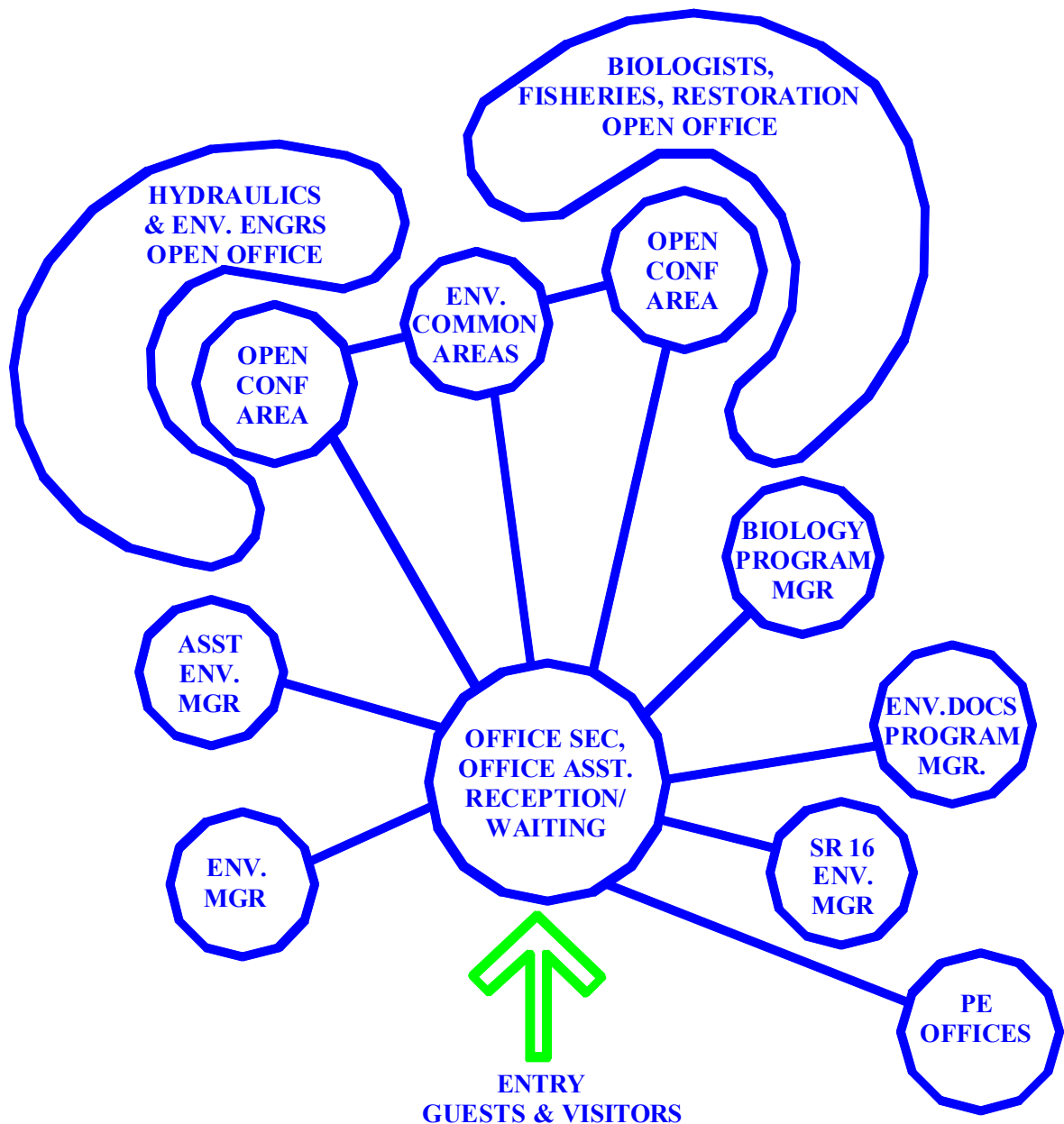
DIV 4C PROJECT DEVELOPMENT OFFICE PLANS & R/W PLANS OFFICE



Section V—Space Needs Program
2. Administrative Office Program
D. Relationships

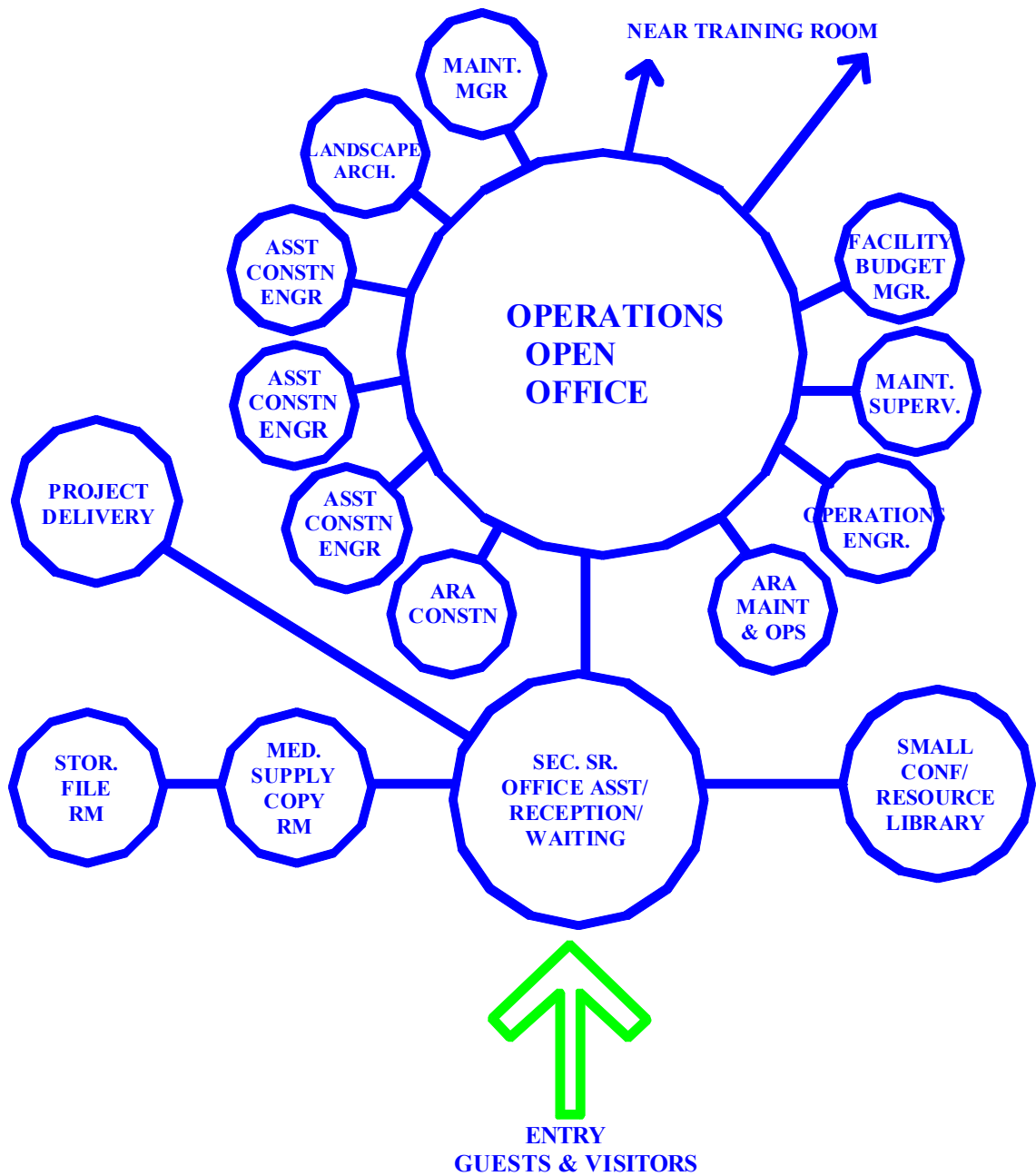
DIV 4D

PROJECT DEVELOPMENT OFFICE ENVIRONMENTAL OFFICE



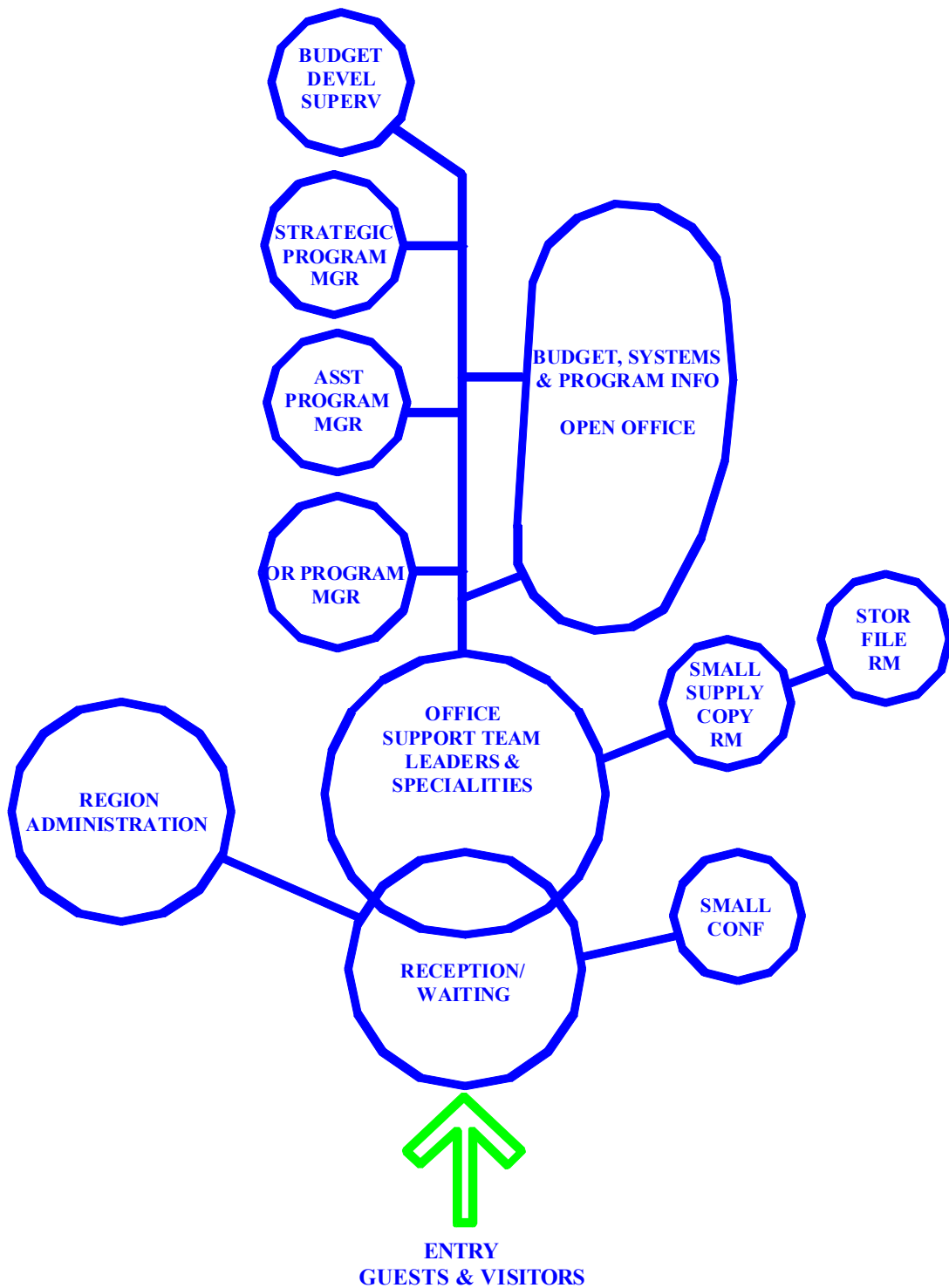
Section V—Space Needs Program
2. Administrative Office Program
D. Relationships

DIV 5 OLYMPIC REGION OPERATIONS



Section V—Space Needs Program
2. Administrative Office Program
D. Relationships

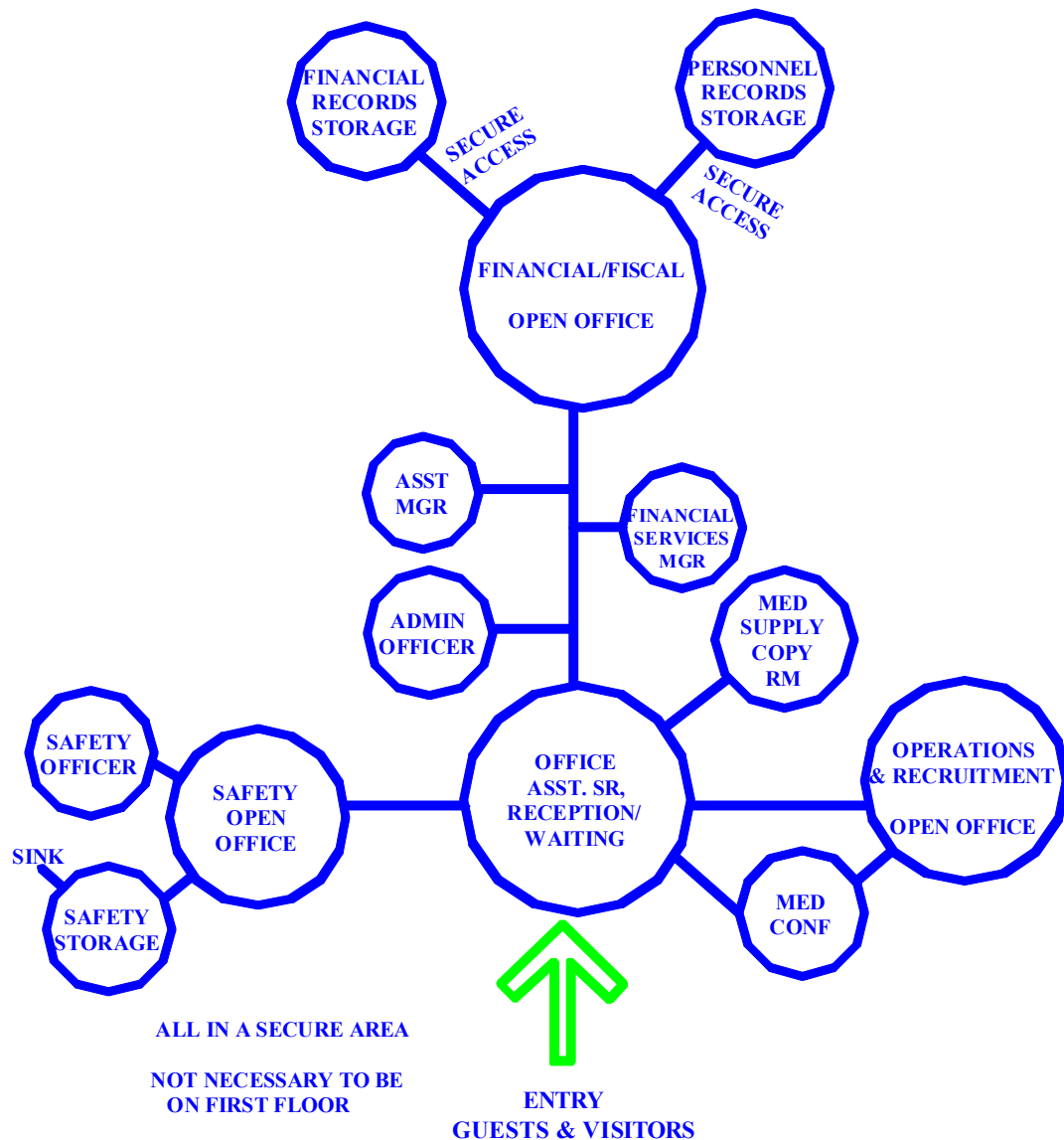
DIV 6 PROGRAM MANAGEMENT



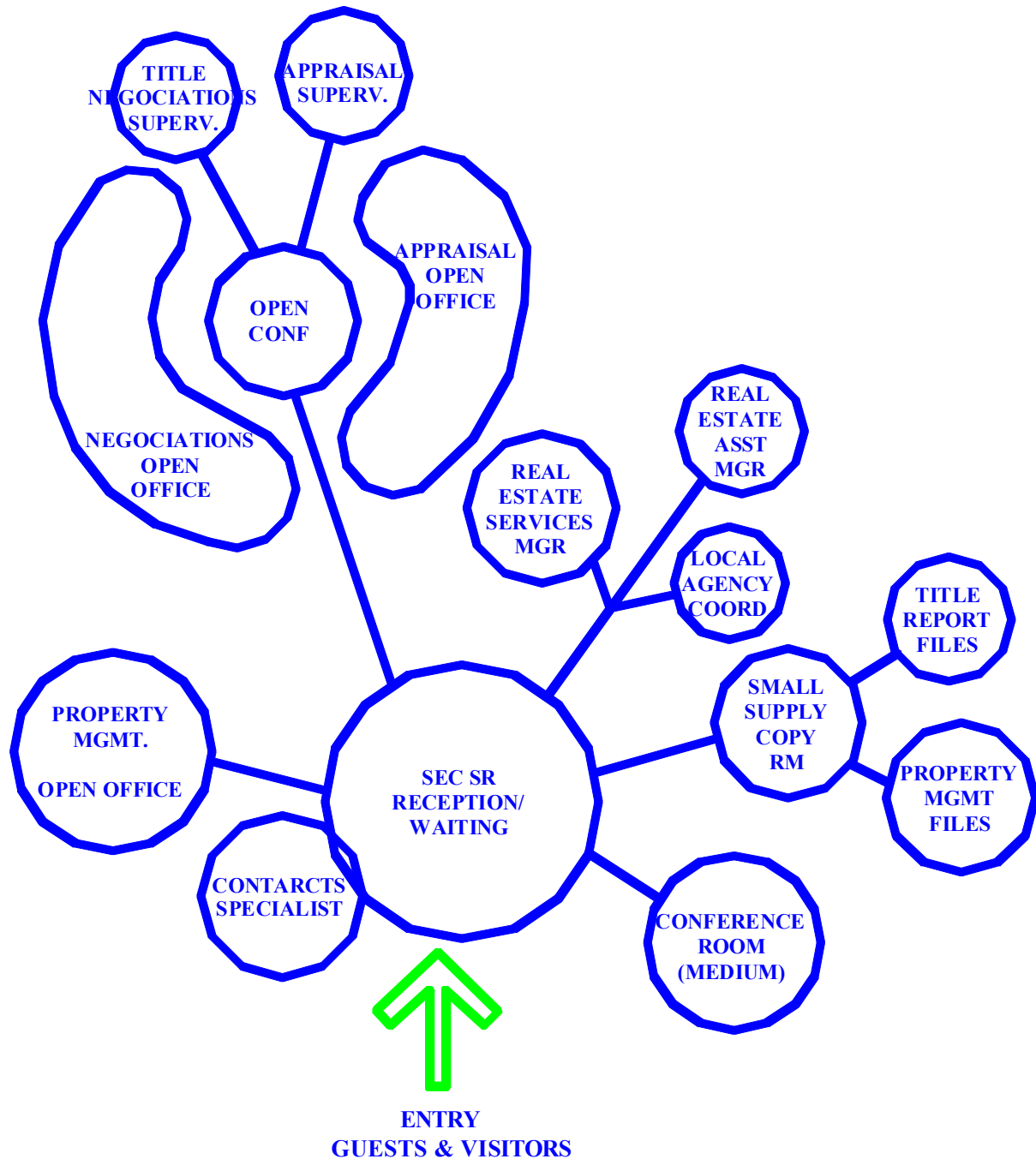
Section V—Space Needs Program
2. Administrative Office Program
D. Relationships

DIV 7

ADMINISTRATION ACCOUNTING & STORES

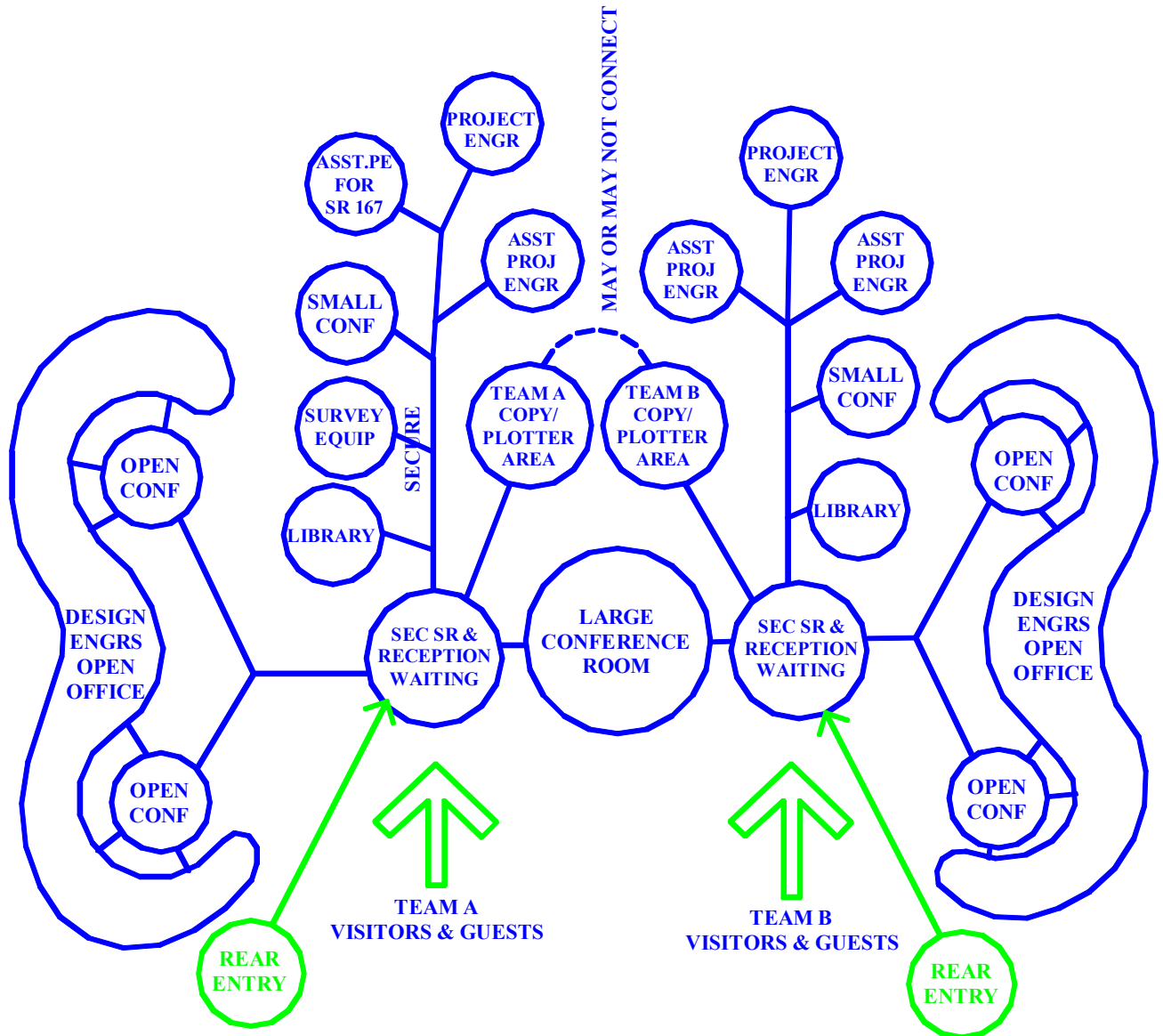


DIV 8 REAL ESTATE SERVICES



Section V—Space Needs Program
2. Administrative Office Program
D. Relationships

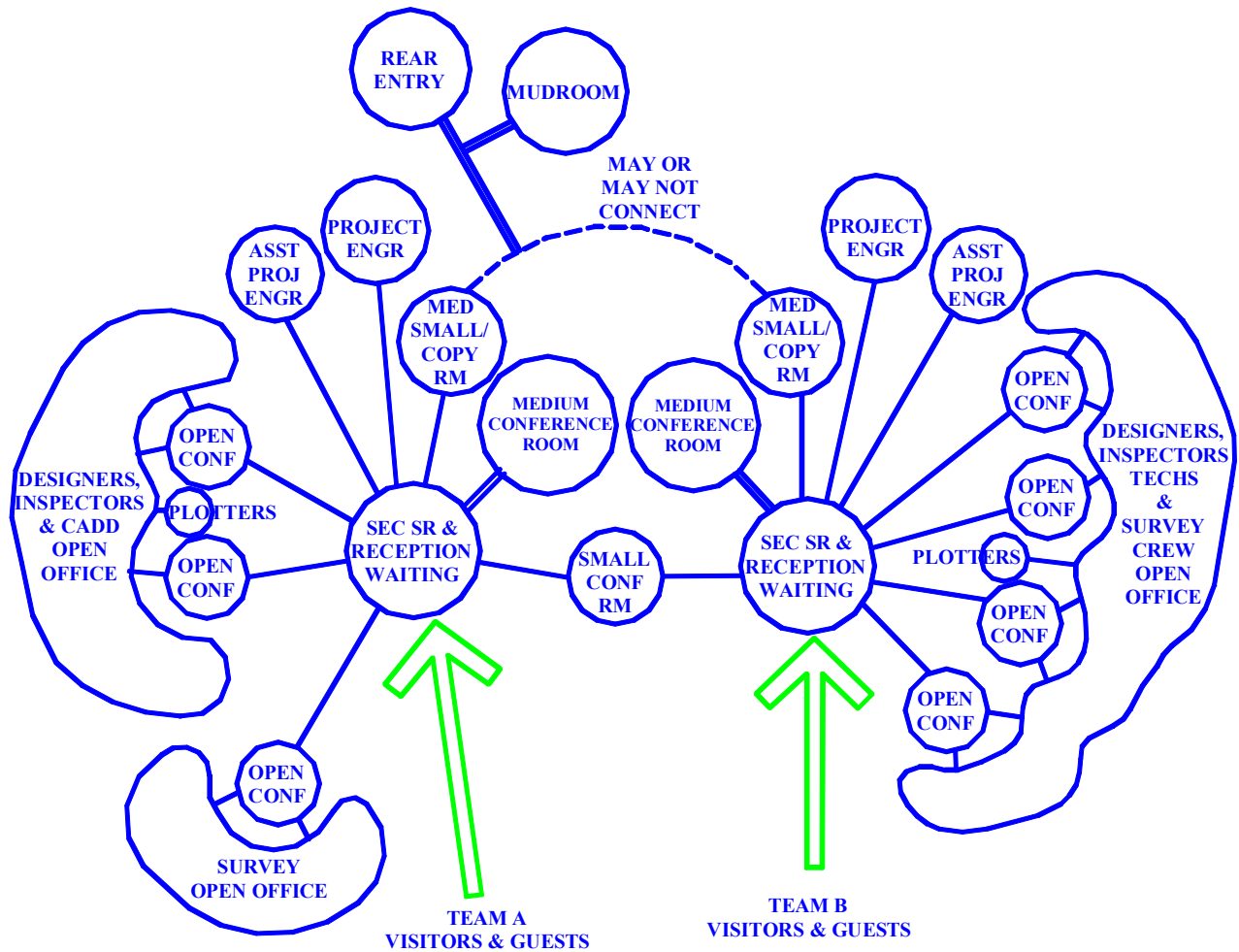
DIV 9 DESIGN OFFICES - TEAMS A & B



Section V—Space Needs Program
2. Administrative Office Program
D. Relationships

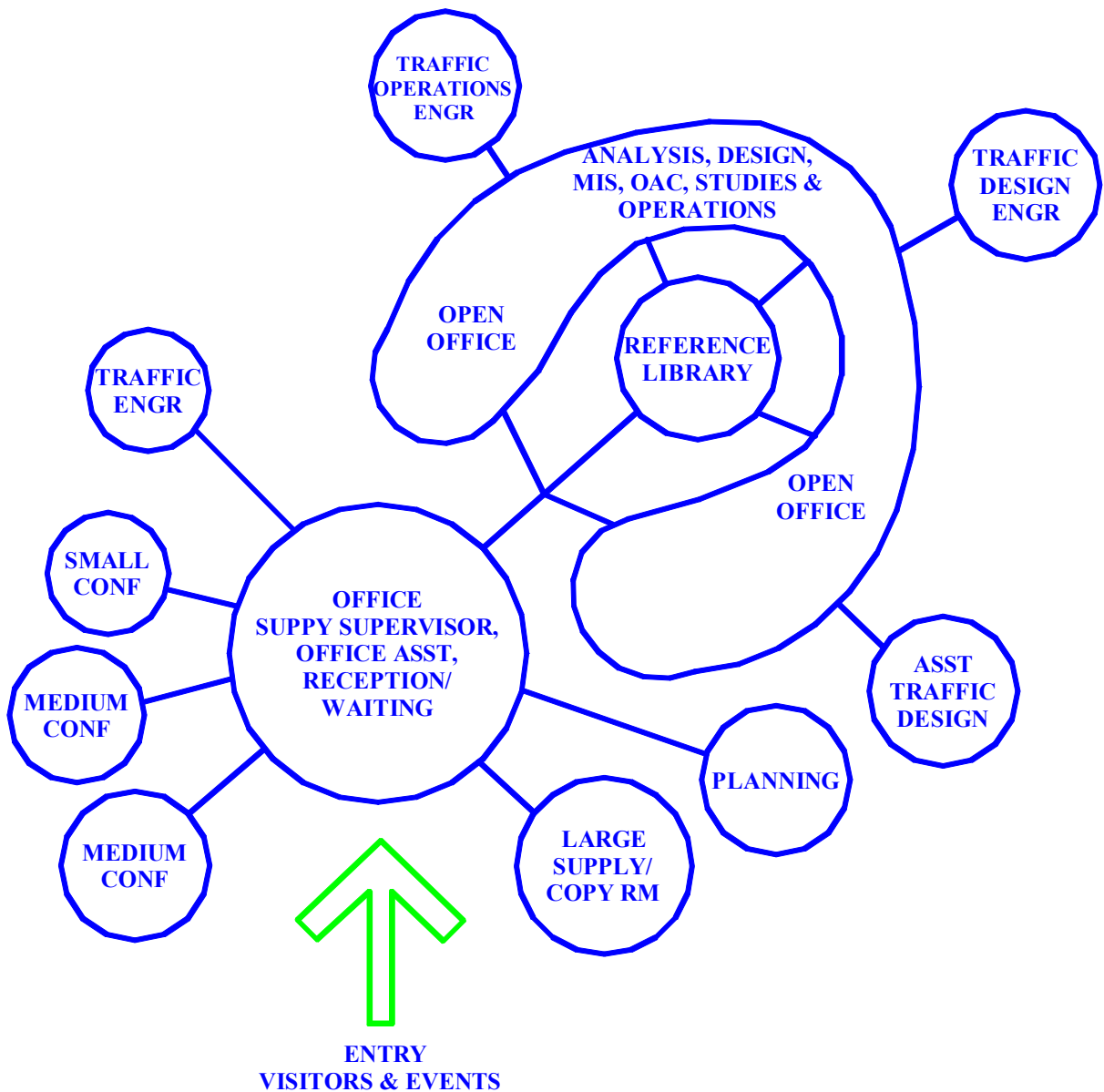
DIV 10

CONSTRUCTION SERVICES - TEAMS A & B



Section V—Space Needs Program
2. Administrative Office Program
D. Relationships

DIV 11 TRAFFIC



Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

E. Physical and Environmental Requirements—Office Building Spaces

1) Private Office Criteria:

a. Room Finishes:

- i. Floor: Provide soft, sound absorbing surfaces such as carpet or carpet tiles.
- ii. Ceiling: Provide sound absorbing surfaces such as acoustical panels or hard surfaces such as gypsum board.
- iii. Walls: Provide hard, durable and easy to clean surfaces such as gypsum board or soft, sound absorbing surfaces such as wall fabric. Provide a minimum of 10% lineal feet of the perimeter wall for tack board wall surface and 10% lineal feet for white board (erasable) surfaces. See Section VI – 2.C90 for height and configuration.

b. Atmospheric Criteria:

- i. Design temperature - heating: 70degF
- ii. Design temperature - cooling: 75degF
- iii. Temperature Tolerance: ± 2 degF
- iv. Relative humidity - summer: 50% RH maximum
- v. Relative humidity - winter: 30% RH minimum
- vi. Outside Air - cfm/person: 20 minimum
- vii. Air changes/hour: 6 minimum
- viii. Static pressure: Neutral
- ix. Heat generating equipment: 2 computers, lighting
- x. Miscellaneous equipment: None

c. Acoustical Criteria See Section VI—2.C.2.a.iv:

- i. Mechanical ambient noise criteria NC: 30
- ii. Articulation class AC: N/A
- iii. Masking noise level dBA: 42
- iv. Cig noise reduction coeff NRC: 60-70
- v. Reverberation time RT60: N/A
- vi. Impact insulation class IIC: Refer to sound isolation table
- vii. Sound transmission class STC: Refer to sound isolation table

d. Services: None required: see lighting and electrical below.

e. Lighting Criteria:

- i. Lighting level: Section VI –2.D52.2.a

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

- | | |
|----------------------------|------------------------------|
| ii. Lighting distribution: | Walls –light, well lit |
| iii. Task lighting: | Incorporate with furnishings |
| iv. Dimmer: | No |
| v. Emergency lighting: | No, unless required by code |
| vi. Daylighting: | Yes, when feasible |
| vii. Daylight control: | Section VI –2.D52.2.b.vi |

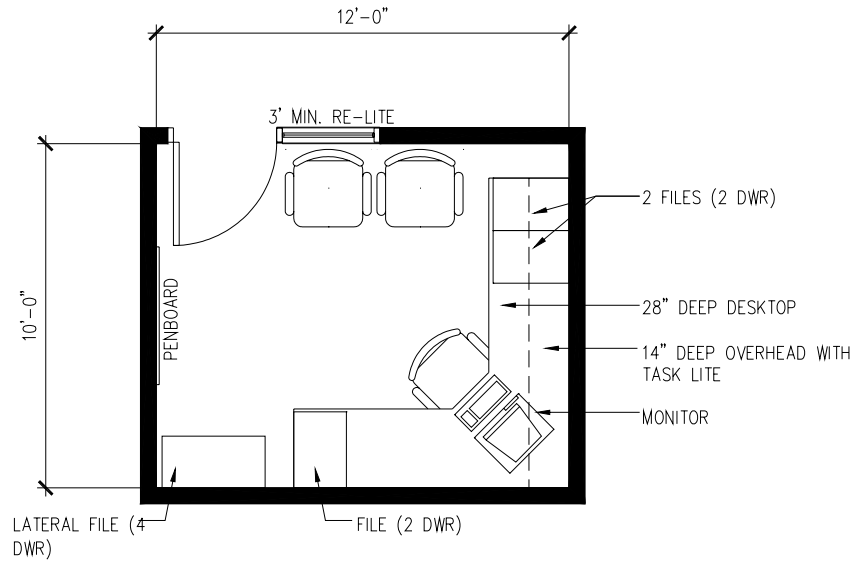
f. Electrical Criteria:

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| i. PA system: | Yes |
| <ul style="list-style-type: none">• Assistive Listening Device should accompany every room that has access to the PA system. | |
| ii. Intercom: | No |
| iii. Voice/Data: | Yes, 3 universal jacks per office (CAT6, see WSDOT Cable Stds) |
| iv. Television: | No |
| v. Clock: | No |
| vi. Individual office space switching: | Yes |
| vii. Master control switching: | N/A |
| viii. Power outlets: | 2 isolated dedicated duplex
and 2 standard duplex |
| ix. Emergency power: | N/A |
| x. Smoke detector: | As required by code |
| xi. Heat detector: | As required by code |

g. Typical Private Office Layouts (see diagrams below)

Section V—Space Needs Program
2. Administrative Office Program
E. Physical and Environmental Requirements

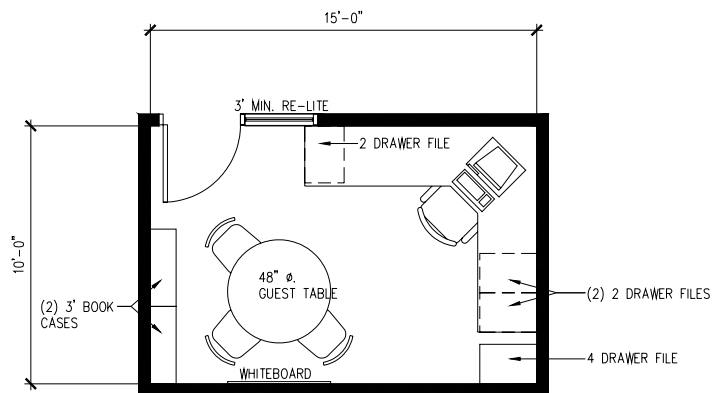
Typical Private Office – PO1



PO 1

120 S.F.

Typical Private Office – PO2

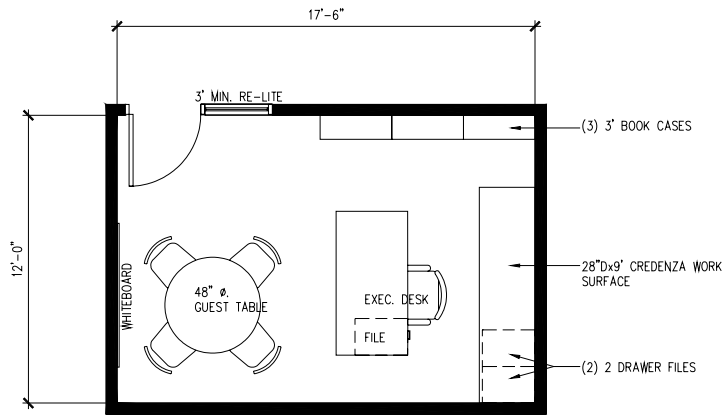


PO 2

150 S.F.

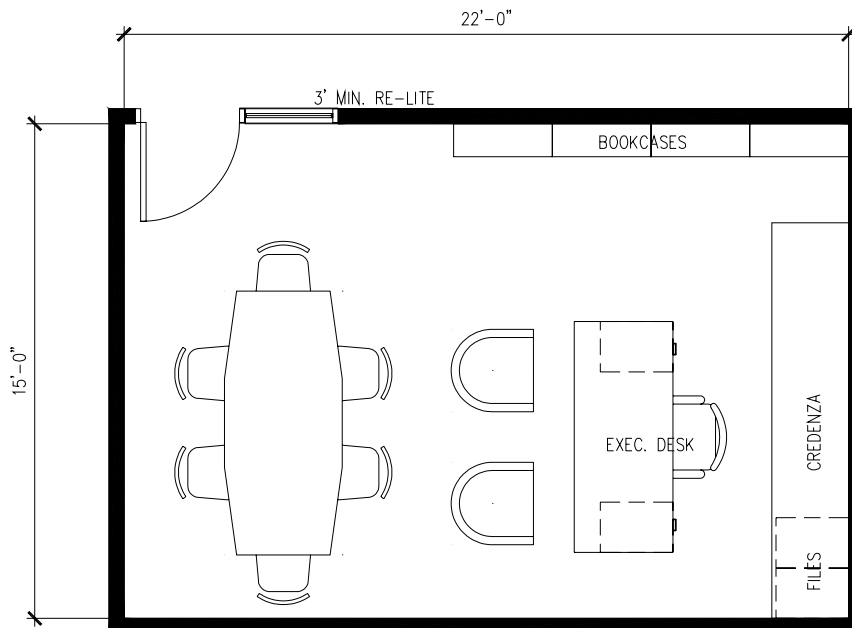
Section V—Space Needs Program
2. Administrative Office Program
E. Physical and Environmental Requirements

Typical Private Office – PO3



PO 3
210 S.F.

Typical Private Office – PO4



PO 4
330 S.F.

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

2) Open Office Criteria:

a. Room Finishes:

- i. Floor: Provide soft, sound absorbing surfaces such as carpet or carpet tiles.
- ii. Ceiling: Provide sound absorbing surfaces such as acoustical panels.
- iii. Walls: Provide hard, durable and easy to clean surfaces such as gypsum board, vinyl tile, stone, metal or epoxy.
- iv. Systems Furniture: Provide systems furniture equal to Correctional Industries Systems 21 furniture with 66 inch spines. Design furniture layout with step down to allow maximum light into building. Use 66 inch height panels or window panels for offices adjacent to core hallways.

b. Atmospheric Criteria:

- | | |
|-----------------------------------|-----------------------------|
| i. intend temperature - heating: | 70degF |
| ii. Design temperature - cooling: | 75degF |
| iii. Temperature Tolerance: | ±2degF |
| iv. Relative humidity – summer: | 50% RH maximum |
| v. Relative humidity – winter: | 30% RH minimum |
| vi. Outside Air – cfm/person: | 20 minimum |
| vii. Air changes/hour: | 6 minimum |
| viii. Static pressure: | Neutral |
| ix. Heat generating equipment: | Computers, lighting |
| x. Miscellaneous equipment: | Copiers, printers, plotters |

c. Acoustical Criteria:

- | | |
|------------------------------------------|--------------------------------|
| i. Mechanical ambient noise criteria NC: | 35 |
| ii. Articulation class AC: | 20 |
| iii. Masking noise level dBA: | 48 |
| iv. Cig noise reduction coeff NRC: | 90 – 1.0 |
| v. Reverberation time RT60: | N/A |
| vi. Impact insulation class IIC: | Refer to sound isolation table |
| vii. Sound transmission class STC: | N/A |

d. Services: None required: see lighting and electrical below.

e. Lighting Criteria:

- | | |
|--------------------|-----------------------|
| i. Lighting level: | Section VI –2.D52.2.a |
|--------------------|-----------------------|

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

- | | |
|-------------------------|-----------------------------|
| ii. Task lighting: | Incorporate in furniture |
| iii. Dimmer: | Integrated with daylighting |
| iv. Emergency/lighting: | Yes, by code |
| v. Day lighting: | Yes, Section VI –2.D60 LEED |
| vi. Daylight control: | Section VI –2.D52.2.b.vi |

f. Electrical Criteria:

- | | |
|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| i. PA system: | Yes |
| • Assistive Listening Device should accompany every room that has access to the PA system. | |
| ii. Intercom: | No |
| iii. Voice/Data: | Yes, 3 universal jacks per workstation (CAT6, see WSDOT Cable Stds) |
| iv. Television: | No |
| v. Clock: | Yes |
| vi. Individual office space switching: | Yes |
| vii. Master control switching: | Yes |
| viii. Power outlets per WorkStation: | 2 isolated dedicated duplex
--Maximum 3 workstations per dedicated circuit
2 standard duplex
--Maximum 2 workstations per standard circuit |
| ix. Emergency power: | Yes |
| x. Smoke detector: | As required by code |
| xi. Heat detector: | As required by code |

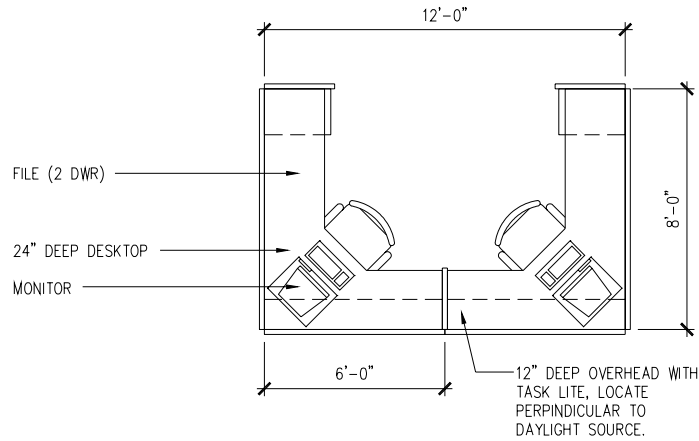
g. Typical Open Office Layouts (see diagrams below)

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

Typical Open Office -- OO1

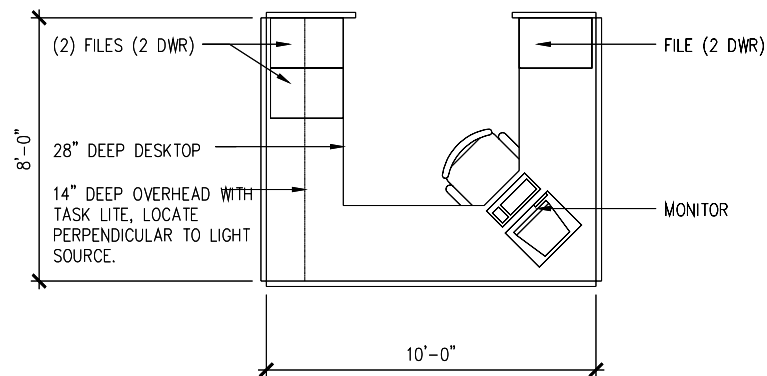


OO 1

48 S.F. PER WORK STATION

(PAIRED TO FORM A DOUBLE WORK STATION AT 96 S.F.)

Typical Open Office – OO2A



OO 2A

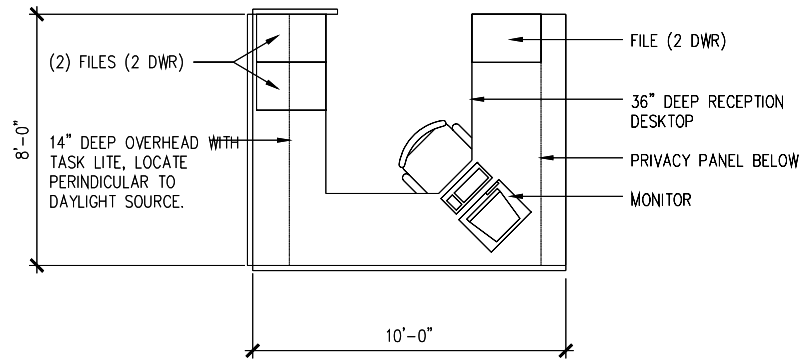
80 S.F.

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

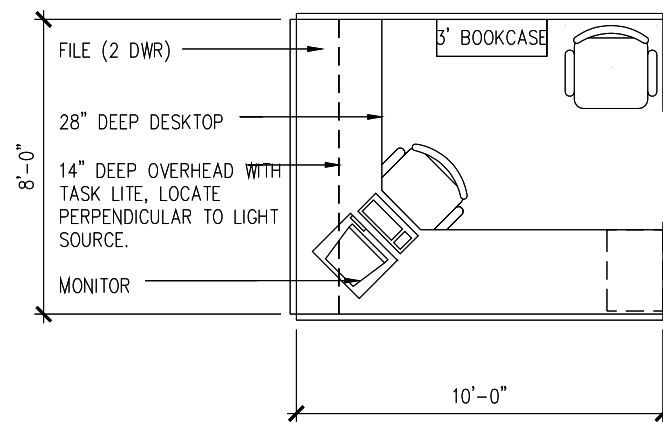
Typical Open Office – OO2B



OO 2B

80 S.F.

Typical Open Office – OO2C

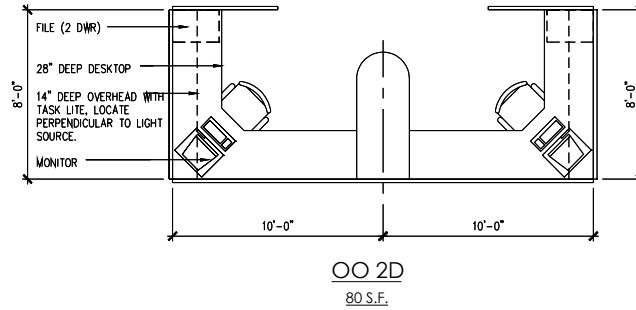


OO 2C

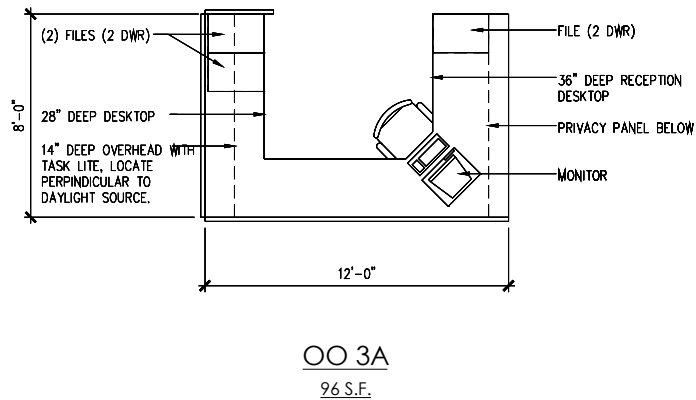
80 S.F.

Section V—Space Needs Program
2. Administrative Office Program
E. Physical and Environmental Requirements

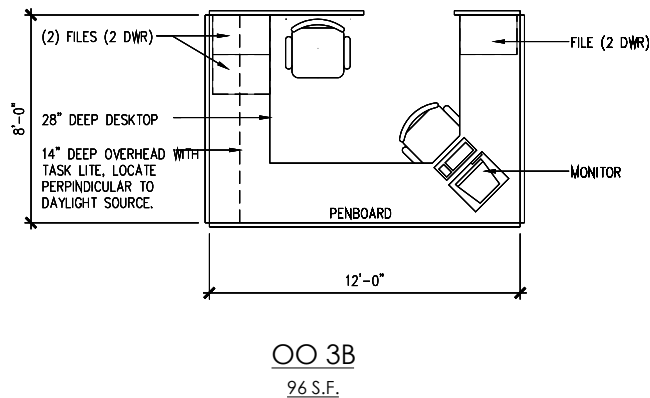
Typical Open Office – OO2D



Typical Open Office – OO3A



Typical Open Office – OO3B

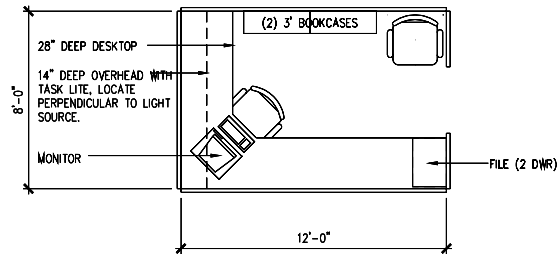


Section V—Space Needs Program

2. Administrative Office Program

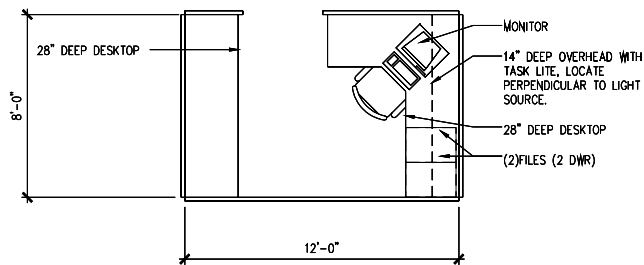
E. Physical and Environmental Requirements

Typical Open Office – OO3C



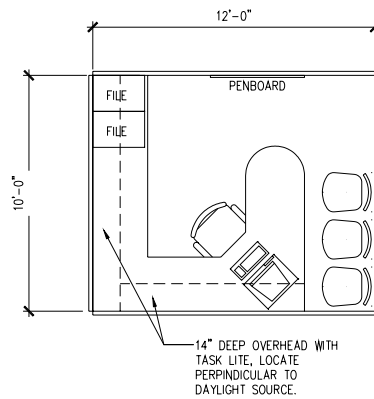
OO 3C
96 S.F.

Typical Open Office – OO3D



OO 3D
96 S.F.

Typical Open Office – OO4



OO 4
120 S.F.

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

3) Building Entry:

a. Vestibule:

i. Finishes:

- Floor: Provide water resistant, non-skid surfaces. Include durable, dirt removal matt or surface, easy to clean and integrated into the floor design.
- Ceiling: Provide sound absorbing surfaces such as acoustical panels or hard surfaces such as gypsum board.
- Walls: Provide hard, durable and easy to clean surfaces such as gypsum board, tile, stone, metal or epoxy. Integrate with the exterior architectural materials to provide a transition between exterior and interior.

ii. Design temperature - heating: 70degF

iii. Design temperature - cooling: N/A

iv. Services: Hose bibb near entry

v. Lighting level: 10 fc

vi. Emergency lighting: Yes

vii. Daylighting: Yes

viii. Acoustical criteria:

- Mechanical ambient noise criteria NC: 45
- Articulation class AC: N/A
- Masking noise level dBA: 50
- Cig noise reduction coeff NRC: 60-70
- Reverberation time RT60: N/A
- Impact insulation class IIC: N/A
- Sound transmission class STC: N/A

ix. Electrical:

- Master control: Yes
- Power receptacle: Yes, one duplex
- Smoke detector: As required by code
- Heat detector: As required by code

b. Lobby:

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

- i. Finishes:
 - Floor: Provide water resistant, non-skid surfaces, easy to clean and integrated with the style and character of the interior architecture.
 - Ceiling: Provide sound absorbing surfaces such as acoustical panels or hard surfaces such as gypsum board.
 - Walls: Provide hard, durable and easy to clean surfaces such as gypsum board, tile, stone, metal or epoxy. Integrate with the style and character of the interior architecture.
- ii. Design temperature - heating: 70degF
- iii. Design temperature - cooling: 75degF
- iv. Services: Hose bibb near entry
- v. Lighting level: 10 fc
- vi. Emergency lighting: Yes
- vii. Daylighting: Yes
- viii. Acoustical criteria:
 - Mechanical ambient noise criteria NC: 45
 - Articulation class AC: N/A
 - Masking noise level dBA: 50
 - Cig noise reduction coeff NRC: 60-70
 - Reverberation time RT60: N/A
 - Impact insulation class IIC: N/A
 - Sound transmission class STC: N/A
- ix. Electrical:
 - Master control: Yes
 - Power receptacle: Yes, one duplex
 - Voice/Data: Yes, 2 universal jacks (CAT6, see WSDOT Cable Stds)
 - Smoke detector: As required by code
 - Heat detector: As required by code

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

4) Reception and Waiting Areas:

a. Room Finishes:

- i. Floor: Provide soft, sound absorbing surfaces such as carpet or carpet tiles.
- ii. Ceiling: Provide sound absorbing surfaces such as acoustical panels or hard surfaces such as gypsum board.
- iii. Walls: Provide hard, durable and easy to clean surfaces such as gypsum board or soft, sound absorbing surfaces such as wall fabric.

b. Atmospheric Criteria:

- i. Design temperature - heating: 70degF
- ii. Design temperature - cooling: 75degF
- iii. Temperature Tolerance: ± 2 degF
- iv. Relative humidity - summer: 50% RH maximum
- v. Relative humidity - winter: 30% RH minimum
- vi. Outside Air - cfm/person: 20 minimum
- vii. Air changes/hour: 6 minimum
- viii. Static pressure: Neutral
- ix. Heat generating equipment: Computer, lighting
- x. Miscellaneous equipment: None

c. Acoustical Criteria:

- i. Mechanical ambient noise criteria NC: 30
- ii. Articulation class AC: N/A
- iii. Masking noise level dBA: 42
- iv. Cig noise reduction coeff NRC: 60-70
- v. Reverberation time RT60: N/A
- vi. Impact insulation class IIC: Refer to sound isolation table
- vii. Sound transmission class STC: Refer to sound isolation table

d. Services: None required: see lighting and electrical below.

e. Lighting Criteria:

- i. Lighting level: Section VI –2.D52.2.a
- ii. Lighting distribution: Walls –light, well lit
- iii. Task lighting: Incorporate with furnishings
- iv. Dimmer: No

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E. Physical and Environmental Requirements

- | | |
|------------------------|-----------------------------|
| v. Emergency lighting: | No, unless required by code |
| vi. Daylighting: | Yes, when feasible |
| vii. Daylight control: | Section VI –2.D52.2.b.vi |

f. Electrical Criteria:

- | | |
|--------------------------------------------------------------------------------------------|--------------------------------------------------------|
| i. PA system: | Yes |
| • Assistive Listening Device should accompany every room that has access to the PA system. | |
| ii. Intercom: | No |
| iii. Voice/Data: | Yes, 3 universal jacks
(CAT6, see WSDOT Cable Stds) |
| iv. Television: | No |
| v. Clock: | Yes |
| vi. Individual office space switching: | Yes |
| vii. Master control switching: | N/A |
| viii. Power outlets: | 2 isolated dedicated duplex
2 standard duplex |
| ix. Emergency power: | N/A |
| x. Smoke detector: | As required by code |
| xi. Heat detector: | As required by code |

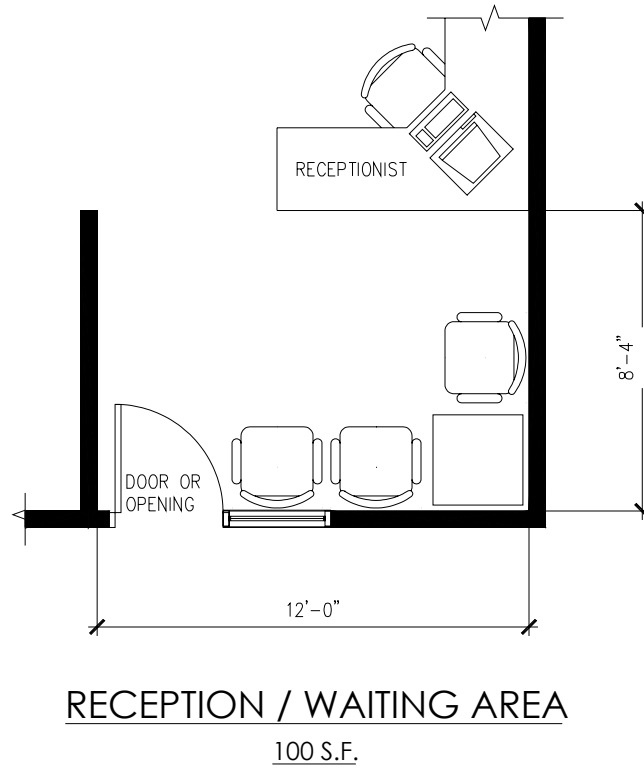
g. Typical Reception/Waiting Area Layout (see diagram below)

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

Typical Reception / Waiting Area



Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

5) Training Room:

a. Room Finishes:

- i. Floor: Provide soft, sound absorbing surfaces such as carpet or carpet tiles.
- ii. Ceiling: Provide sound absorbing surfaces such as acoustical panels or hard surfaces such as gypsum board.
- iii. Walls: Provide durable and easy to clean surfaces such as gypsum board and/or soft, sound absorbing surfaces such as acoustical wall treatment, tack board or wall fabrics. Provide a minimum of 20% lineal feet of the perimeter wall for tack board wall surface and 10% lineal feet for white board (erasable) surfaces. See Section VI –2.C90 for height and configuration. Locate whiteboard surfaces at the focal point or “presenter” side of the training room. Provide chair rail around the perimeter of each room; prefer tray-type rail that will support display boards.

b. Equipment and Furnishings:

- i. Provide pull-down visual aids/movie screen at the focal point or “presenter” side of the training room. See Section VI –2.C90 for height and configuration.

c. Atmospheric Criteria:

- | | |
|-----------------------------------|---------------------------|
| i. Design temperature - heating: | 70degF |
| ii. Design temperature - cooling: | 75degF |
| iii. Temperature Tolerance: | ±2degF |
| iv. Relative humidity - summer: | 50% RH maximum |
| v. Relative humidity - winter: | 30% RH minimum |
| vi. Outside Air - cfm/person: | 20 minimum |
| vii. Zoning: | Separate HVAC zone |
| viii. Air changes/hour: | 6 minimum |
| ix. Static pressure: | Neutral |
| x. Heat generating equipment: | 1 LCD projector, lighting |
| xi. Miscellaneous equipment: | None |

d. Acoustical Criteria:

- | | |
|------------------------------------------|--------------------------------|
| i. Mechanical ambient noise criteria NC: | 25 |
| ii. Articulation class AC: | N/A |
| iii. Masking noise level dBA: | N/A |
| iv. Cig noise reduction coeff NRC: | 60-70 |
| v. Reverberation time RT60: | N/A |
| vi. Impact insulation class IIC: | Refer to sound isolation table |
| vii. Sound transmission class STC: | Refer to sound isolation table |

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

e. **Services:** None required: see lighting and electrical below.

f. **Lighting Criteria:**

- | | |
|----------------------------|--------------------------|
| i. Ambient lighting level: | Section VI –2.D52.2.a |
| ii. Wall lighting: | Wall washers with dimmer |
| iii. Task lighting: | Focal point on presenter |
| iv. Dimmer: | Yes |
| v. Emergency lighting: | Yes |
| vi. Daylighting: | If feasible |
| vii. Daylight control: | Section VI –2.D52.2.b.vi |

g. **Electrical Criteria:**

- | | |
|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| i. PA system: | Yes |
| • Assistive Listening Device should accompany every room that has access to the PA system. | |
| ii. Intercom: | No |
| iii. Voice/data: | Yes, 2 universal jacks near presenter (CAT6, see WSDOT Cable Standards) and 2 at opposite end of room.
Plus: 2 universal jacks for each training station. |
| iv. Television: | Yes |
| v. Clock: | Yes |
| vi. Individual space switching: | Yes, motion detection |
| vii. Master control switching: | N/A |
| viii. Power outlets: | 2 isolated dedicated duplex:
1 near the presenter and 1 at opposite end of room.
Plus: isolated power for each training station.
2 std. each wall, min. 12 ft. OC |
| ix. Emergency power: | Yes |
| x. Smoke detector: | Yes |
| xi. Heat detector: | As required by code |

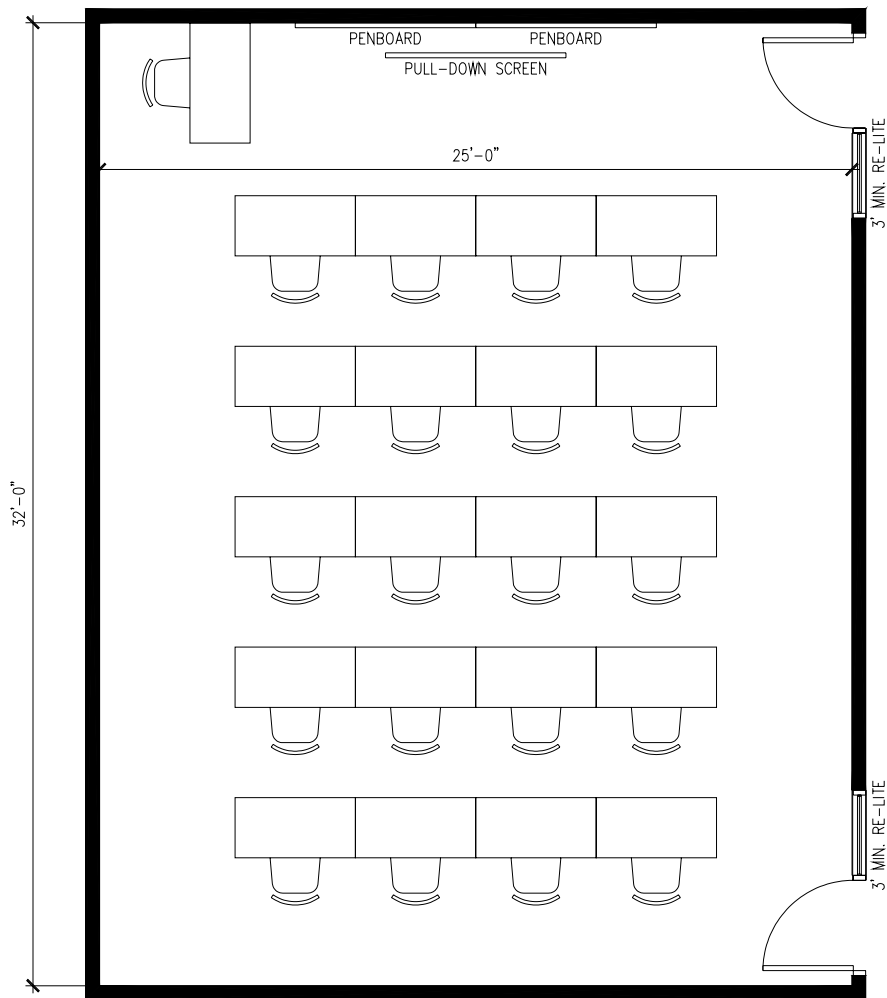
Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

h. Typical Training Room Layout (see diagram below)

Typical Training Room



TRAINING ROOM

800 S.F.

6) Open Office Conference Area:

a. Room Finishes:

- i. Floor: Provide soft, sound absorbing surfaces such as carpet or carpet tiles.
- ii. Ceiling: Provide sound absorbing surfaces such as acoustical panels.
- iii. Walls: Provide soft, sound absorbing surfaces such as acoustical wall treatment, tack board or wall fabrics. Provide a minimum of 10% lineal feet

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

of the perimeter wall for tack board wall surface and 10% lineal feet for whiteboard/penboard (erasable) surfaces. See Section VI –2.C90 for height and configuration. Locate whiteboard surfaces at the focal point or “presenter” side of the conference room.

b. Atmospheric Criteria:

i. Design temperature - heating:	70degF
ii. Design temperature - cooling:	75degF
iii. Temperature Tolerance:	±2degF
iv. Relative humidity – summer:	50% RH maximum
v. Relative humidity – winter:	30% RH minimum
vi. Outside Air – cfm/person:	20 minimum
vii. Air changes/hour:	6 minimum
viii. Static pressure:	Neutral
ix. Heat generating equipment:	Computer, projector, lighting
x. Miscellaneous equipment:	None

c. Acoustical Criteria:

i. Mechanical ambient noise criteria NC:	35
ii. Articulation class AC:	20
iii. Masking noise level dBA:	48
iv. Cig noise reduction coeff NRC:	90 – 1.0
v. Reverberation time RT60:	N/A
vi. Impact insulation class IIC:	Refer to sound isolation table
vii. Sound transmission class STC:	N/A

d. Services: None required: see lighting and electrical below.

e. Lighting Criteria:

i. Lighting level:	Section VI –2.D52.2.a
ii. Task lighting:	N/A
iii. Dimmer:	Integrated with daylighting
iv. Emergency/lighting:	Yes, by code
v. Day lighting:	Yes, Section VI –2.D60 LEED
vi. Daylight control:	Section VI –2.D52.2.b.vi

f. Electrical Criteria:

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2. Administrative Office Program

E. Physical and Environmental Requirements

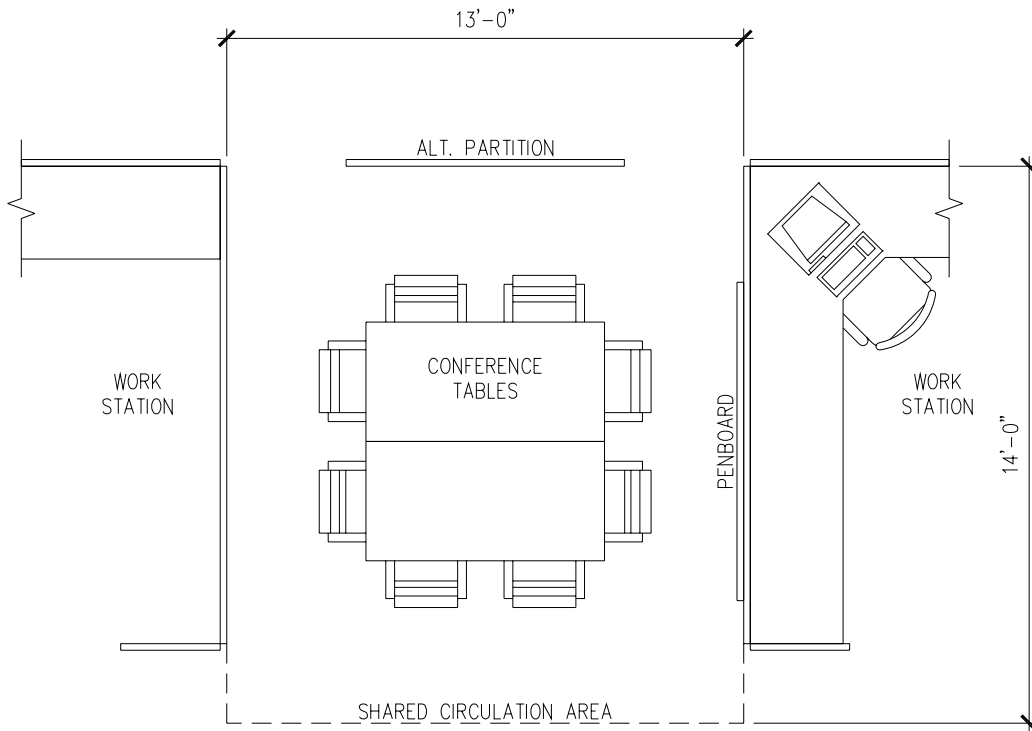
- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| i. PA system: | Yes |
| <ul style="list-style-type: none">• Assistive Listening Device should accompany every room that has access to the PA system. | |
| ii. Intercom: | No |
| iii. Voice/Data: | Yes, 2 universal jacks
(CAT6, see WSDOT Cable Stds) |
| iv. Television: | No |
| v. Clock: | No |
| vi. Individual office space switching: | No |
| vii. Master control switching: | Yes |
| viii. Power outlets: | 2 isolated dedicated duplex
2 standard duplex |
| ix. Emergency power: | No |
| x. Smoke detector: | As required by code |
| xi. Heat detector: | As required by code |
- g. Typical Open Office Conference Area Layouts** (see diagram below)

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

Typical Open Office Conference Area



OPEN CONFERENCE AREA

180 S.F.

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

7) Conference Rooms:

a. Room Finishes:

- i. Floor: Provide soft, sound absorbing surfaces such as carpet or carpet tiles.
- ii. Ceiling: Provide sound absorbing surfaces such as acoustical panels or hard surfaces such as gypsum board.
- iii. Walls: Provide durable and easy to clean surfaces such as gypsum board and/or soft, sound absorbing surfaces such as acoustical wall treatment, tack board or wall fabrics. Provide a minimum of 10% lineal feet of the perimeter wall for tack board wall surface and 10% lineal feet for white board (erasable) surfaces. See Section VI – 2.C90 for height and configuration. Locate whiteboard surfaces at the focal point or “presenter” side of the conference room. Provide chair rail around the perimeter of each room; prefer tray-type rail that will support display boards.

b. Equipment and Furnishings:

- i. In large and medium conference rooms provide roll-down visual aids/movie screen at the focal point or “presenter” side of the room. See Section VI – 2.C90 for height and configuration.
- ii. Provide operable partition to divide large conference room into two rooms.
- iii. In large conference rooms provide 10 linear feet of base cabinet (30” W x 36” H) with 10 linear feet of upper cabinet, 12” deep.

c. Atmospheric Criteria:

- | | |
|------------------------------------------------|---------------------------|
| i. Design temperature - heating: | 70degF |
| ii. Design temperature - cooling: | 75degF |
| iii. Temperature Tolerance: | ±2degF |
| iv. Relative humidity - summer: | 50% RH maximum |
| v. Relative humidity - winter: | 30% RH minimum |
| vi. Outside Air - cfm/person: | 20 minimum |
| vii. Zoning – medium & large conference rooms: | Separate HVAC zone |
| viii. Air changes/hour: | 6 minimum |
| ix. Static pressure: | Neutral |
| x. Heat generating equipment: | 1 LCD projector, lighting |
| xi. Miscellaneous equipment: | None |

d. Acoustical Criteria:

- | | |
|------------------------------------------|-----|
| i. Mechanical ambient noise criteria NC: | 25 |
| ii. Articulation class AC: | N/A |
| iii. Masking noise level dBA: | N/A |

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

- | | |
|------------------------------------|--------------------------------|
| iv. Cig noise reduction coeff NRC: | 60-70 |
| v. Reverberation time RT60: | N/A |
| vi. Impact insulation class IIC: | Refer to sound isolation table |
| vii. Sound transmission class STC: | Refer to sound isolation table |
- e. Services:** None required: see lighting and electrical below.
- f. Lighting Criteria:**
- | | |
|-----------------------------------------------|-----------------------------|
| i. Ambient lighting level: | Section VI –2.D52.2.a |
| ii. Wall lighting-medium & large conf rooms : | Wall washers with dimmer |
| iii. Task lighting: | Focal point on presenter |
| iv. Dimmer: | Yes, large conf. rooms only |
| v. Emergency lighting: | Yes |
| vi. Daylighting: | If feasible |
| vii. Daylight control: | Section VI –2.D52.2.b.vi |
- g. Electrical Criteria:**
- | | |
|--------------------------------------------------------------------------------------------|-----------------------------------------------|
| i. PA system: | Yes |
| • Assistive Listening Device should accompany every room that has access to the PA system. | |
| ii. Intercom: | No |
| iii. Voice/Data: | |
| • Small conference rooms | 2 universal jacks (CAT6 see WSDOT Cable Stds) |
| • Medium conference rooms | 2 universal jacks on opposite walls |
| • Large conference rooms | 2 universal jacks on each wall |
| iv. Television: | |
| • Small conference rooms | No |
| • Medium conference rooms | Yes |
| • Large conference rooms | Yes |
| v. Clock: | Yes |
| vi. Individual space switching: | Yes, motion detection |
| vii. Master control switching: | N/A |
| viii. Power outlets: | 1 std. each wall, min. 12 ft. oc |

Section V—Space Needs Program

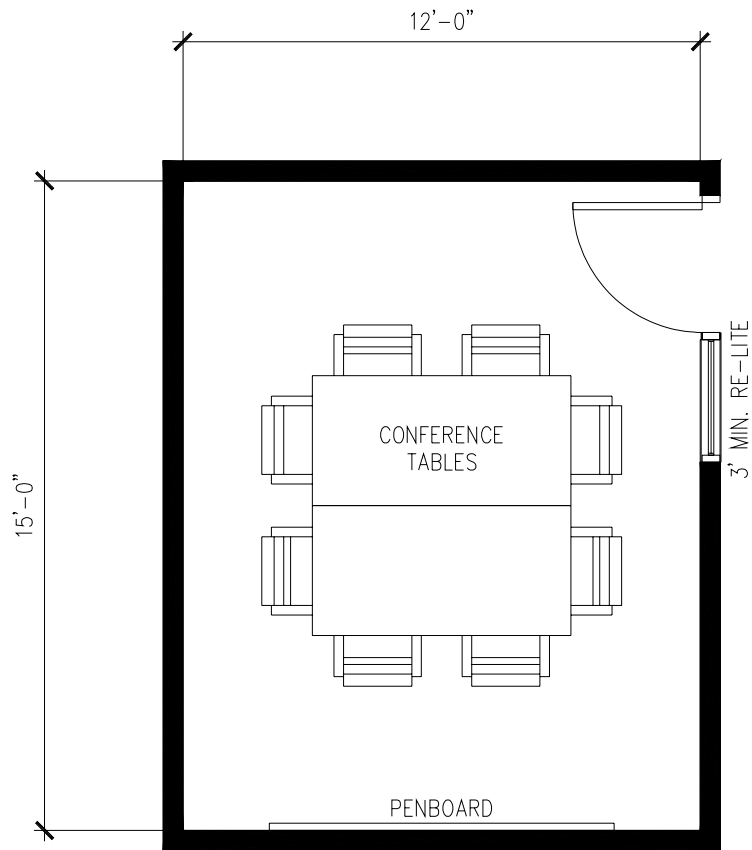
2. Administrative Office Program

E. Physical and Environmental Requirements

- | | |
|----------------------|---------------------|
| ix. Emergency power: | N/A |
| x. Smoke detector: | Yes |
| xi. Heat detector: | As required by code |

h. Typical Conference Room Layouts (see diagrams below)

Typical Small Conference Room



SMALL CONFERENCE ROOM

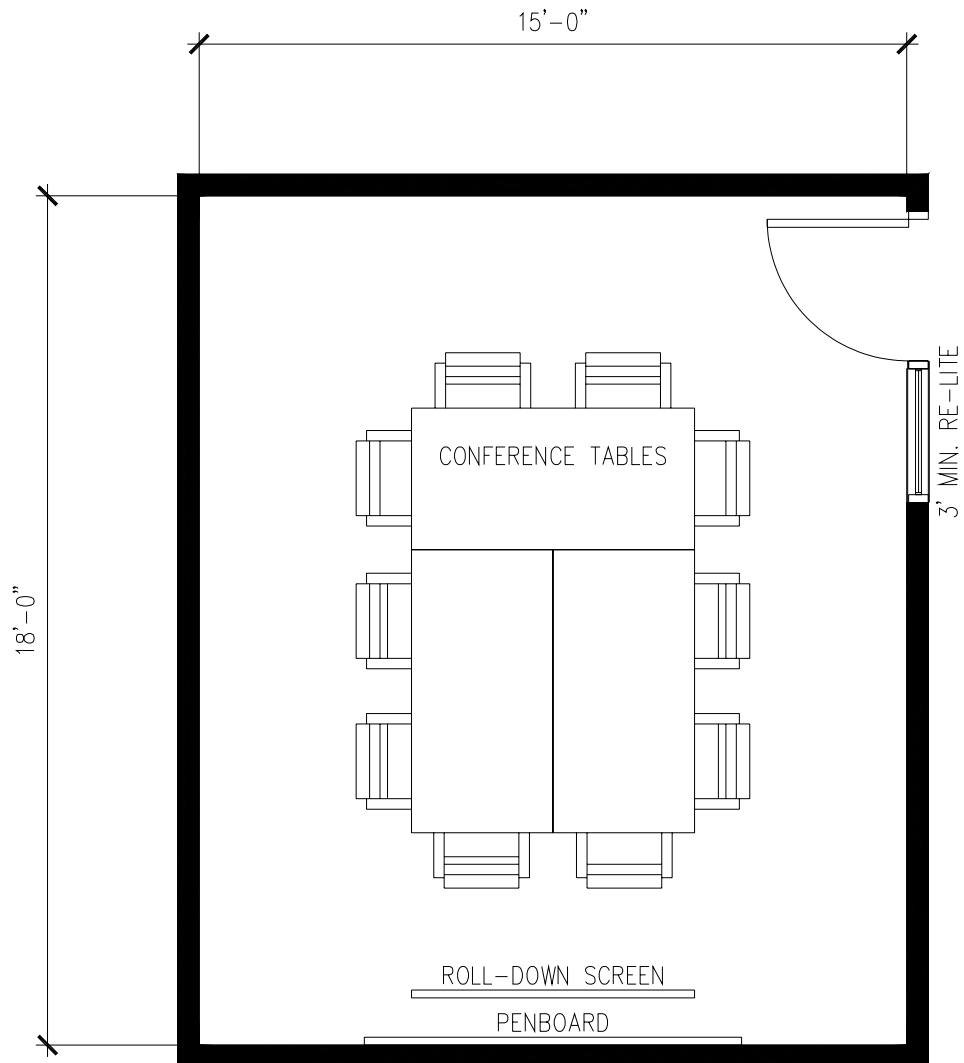
180 S.F.

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

Typical Medium Conference Room



MEDIUM CONFERENCE AREA

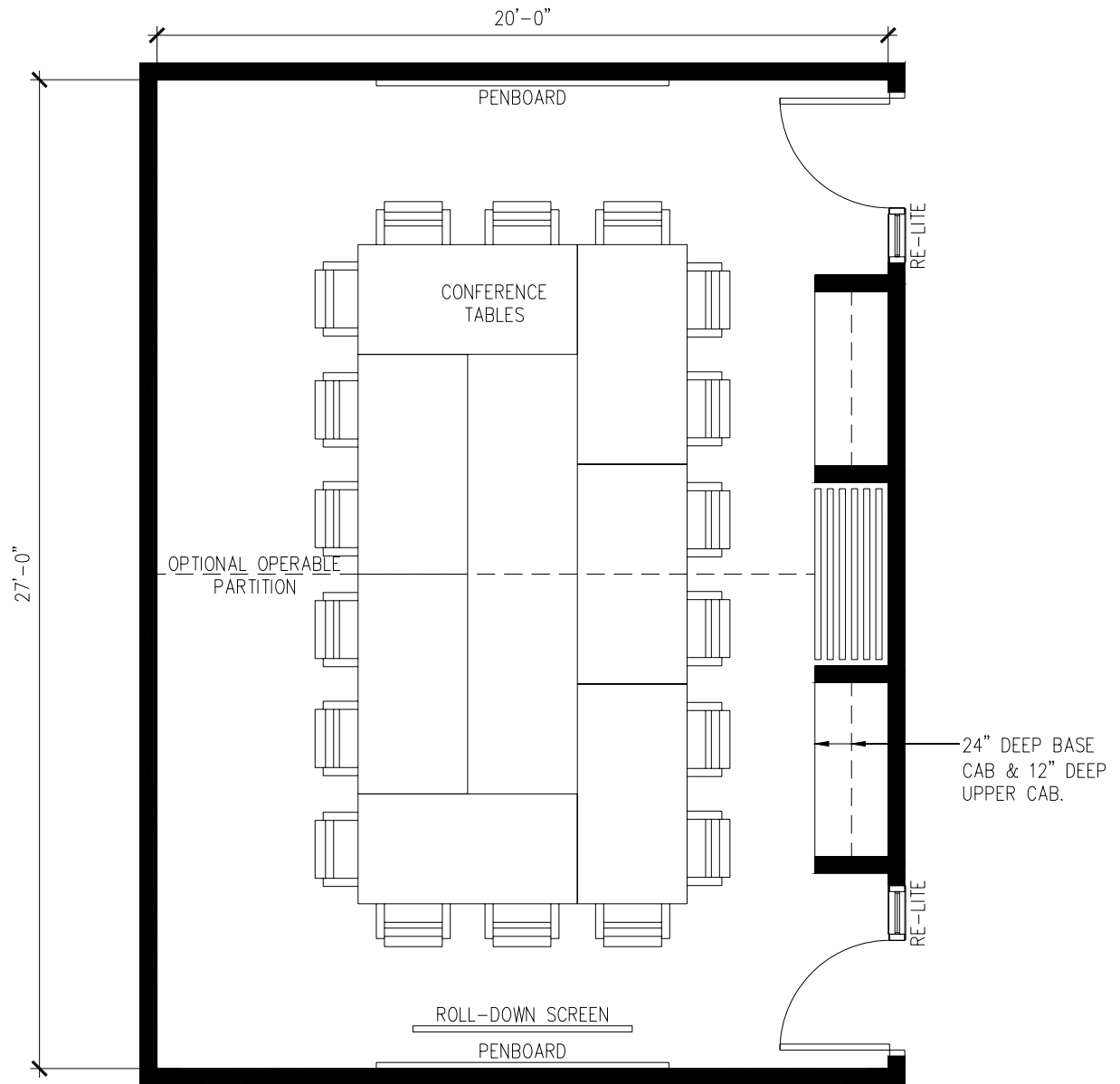
270 S.F.

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

Typical Large Conference Room



LARGE CONFERENCE ROOM

540 S.F.

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

8) MDF (Main Distribution Frame / Main Equipment / Server) Room:

a. Room Finishes:

- i. Floor: Provide hard surfaces such as epoxy or vinyl tile. Provide raised floor, minimum 12" above structural floor.
- ii. Ceiling: No requirement. Remain open for access. Minimum 8ft-6in. height.
- iii. Walls: Provide hard, durable and easy to clean surfaces such as gypsum board. Provide 3/4in. plywood backing for wall mounted telecommunications entry equipment and as otherwise required.

b. Equipment and furnishings:

- i. Provide space, electrical power, cooling, racks/equipment enclosures and data services for the equipment and furnishings required in typical data centers. Further design clarifications can be obtained upon request during Phase II selection process.

c. Atmospheric Criteria:

- | | |
|-----------------------------------|---------------------------|
| i. Design temperature - heating: | 70degF |
| ii. Design temperature - cooling: | 72degF |
| iii. Temperature Tolerance: | ±2degF |
| iv. Relative humidity - summer: | 60% RH maximum |
| v. Relative humidity - winter: | 40% RH minimum |
| vi. Outside Air - cfm/person: | 20 minimum |
| vii. Air changes/hour: | 10 minimum |
| viii. Static pressure: | Positive |
| ix. Exhaust air: | N/A |
| x. Heat generating equipment: | Equipment above, lighting |
| xi. Miscellaneous equipment: | None |

d. Acoustical Criteria:

- | | |
|------------------------------------------|--------------------------------|
| i. Mechanical ambient noise criteria NC: | N/A |
| ii. Articulation class AC: | N/A |
| iii. Masking noise level dBA: | N/A |
| iv. Cig noise reduction coeff NRC: | 60 - 70 |
| v. Reverberation time RT60: | N/A |
| vi. Impact insulation class IIC: | Refer to sound isolation table |
| vii. Sound transmission class STC: | Refer to sound isolation table |

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

e. **Services:** None required: see lighting and electrical below.

f. **Lighting Criteria:**

i. Lighting level:	Section VI –2.D52.2.a
ii. Lighting distribution:	N/A
iii. Task lighting:	N/A
iv. Dimmer:	N/A
v. Emergency lighting:	Yes
vi. Daylighting:	N/A
vii. Daylight control:	N/A

g. **Electrical Criteria:**

i. PA system:	N/A
ii. Intercom:	N/A
iii. Telephone:	Install copper feed cables that will support up to two pair per workstation and/or common area.
iv. Computer:	Install fiber to meet the number of workstations and/or common areas.
v. Television:	N/A
vi. Clock:	N/A
vii. Individual switching:	Yes
viii. Master control switching:	No
ix. Power outlets:	As required for equipment Duplex receptacles above counters at 42" above finished floor (AFF) @ 6 ft O.C. along counters
x. Special power:	Dedicated 20 circuit sub-panel, sized as needed for comm. equipment. Master communication ground, maximum resistance 10 OHMS.
xi. Emergency power:	Yes

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

- | | |
|----------------------|---------------------|
| xii. Smoke detector: | Yes |
| xiii. Heat detector: | As required by code |

h. Comments:

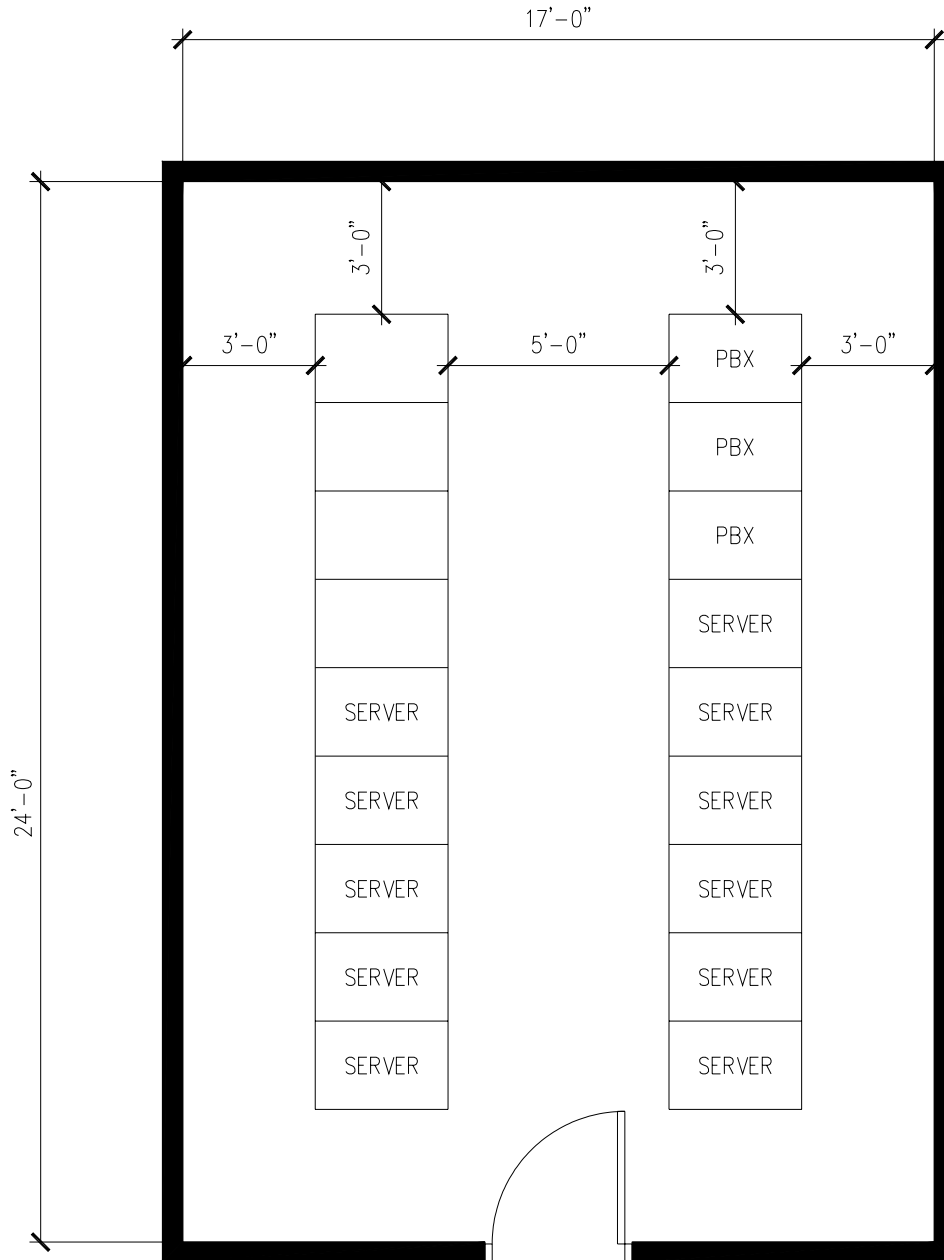
- i. Provide card access security.
- ii. Comply with requirements in the WSDOT Telecommunications Infrastructure Cable Standards. See Attachment Section VII—3.A

i. Location: Centrally locate on ground floor.

j. Typical Communications/MDF Room Layout: (see diagram below)

Section V—Space Needs Program
2. Administrative Office Program
E. Physical and Environmental Requirements

Typical Communications / MDF Room



COMMUNICATIONS / MDF ROOM

408 S.F.

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

9) IDF (Intermediate Distribution Frame) Rooms:

a. Room Finishes:

- i. Floor: Provide hard surfaces such as epoxy or vinyl tile.
- ii. Ceiling: No requirement. Remain open for access. Minimum 8ft-6in. height.
- iii. Walls: Provide hard, durable and easy to clean surfaces such as gypsum board. Provide 3/4in. plywood backing for wall mounted equipment as needed.

b. Equipment and furnishings:

- i. Provide space, electrical power, cooling, racks/equipment enclosures and data services for the equipment required in typical data centers. Further design clarifications can be obtained upon requests during Phase II selection process

c. Atmospheric Criteria:

- | | |
|-----------------------------------|---------------------------|
| i. Design temperature - heating: | 70degF |
| ii. Design temperature - cooling: | 75degF |
| iii. Temperature Tolerance: | ±2degF |
| iv. Relative humidity - summer: | 60% RH maximum |
| v. Relative humidity - winter: | 40% RH minimum |
| vi. Outside Air - cfm/person: | 20 minimum |
| vii. Air changes/hour: | 10 minimum |
| viii. Static pressure: | Positive |
| ix. Exhaust air: | N/A |
| x. Heat generating equipment: | Equipment above, lighting |
| xi. Miscellaneous equipment: | None |

d. Acoustical Criteria:

- | | |
|------------------------------------------|--------------------------------|
| i. Mechanical ambient noise criteria NC: | N/A |
| ii. Articulation class AC: | N/A |
| iii. Masking noise level dBA: | N/A |
| iv. Cig noise reduction coeff NRC: | 60 - 70 |
| v. Reverberation time RT60: | N/A |
| vi. Impact insulation class IIC: | Refer to sound isolation table |
| vii. Sound transmission class STC: | Refer to sound isolation table |

- e. **Services:** None required: see lighting and electrical below.

Section V—Space Needs Program
2. Administrative Office Program
E. Physical and Environmental Requirements

f. Lighting Criteria:

i. Lighting level:	Section VI –2.D52.2.a
ii. Lighting distribution:	N/A
iii. Task lighting:	N/A
iv. Dimmer:	N/A
v. Emergency lighting:	Yes
vi. Daylighting:	N/A
vii. Daylight control:	N/A

g. Electrical Criteria:

i. PA system:	N/A
ii. Intercom:	N/A
iii. Telephone:	Install copper feed cables that will support up to two pair per workstation and/or common area.
iv. Computer:	Install fiber to meet the number of workstations and/or common areas.
v. Television:	N/A
vi. Clock:	N/A
vii. Individual switching:	Yes
viii. Master control switching:	No
ix. Power outlets:	As required for equipment Duplex receptacles above counters at 42” above finished floor (AFF) @ 6 ft O.C. along counters
x. Special power:	Dedicated 20 circuit sub-panel, sized as needed for comm. equipment. Isolated ground connected to master comm. ground, maximum .005 OHMS resistance.
xi. Emergency power:	Yes
xii. Smoke detector:	Yes

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

xiii. Heat detector:

As required by code

h. Comments:

- i. Minimum room size is 150 sf.
- ii. Provide card access security.
- iii. Comply with requirements in the WSDOT Telecommunications Infrastructure Cable Standards. See Attachment Section VII—3.A.
- i. Location:** Locate on each floor to ensure horizontal cable runs do not exceed the requirements in the WSDOT Telecommunications Infrastructure Cable Standards. See Attachment Section VII—3.A.

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

10) Computer Setup and Storage:

a. Room Finishes:

- i. Floor: Provide hard surfaces such as epoxy or vinyl tile.
- ii. Ceiling: Provide sound absorbing surfaces such as acoustical panels.
- iii. Walls: Provide hard, durable and easy to clean surfaces such as gypsum board.

b. Equipment and furnishings:

- i. Provide the following casework:
 - 30 lineal feet of upper cabinetry with under-cabinet light fixtures.
 - 30 lineal feet counter with shelves under (30" W x 36" H--shelves 18" deep).
 - 15 lineal feet of layout / workbench (5 ft W x 36" H x 15 ft L).
 - 36 lineal feet of open shelving (30" W x 7 ft H x 36 ft L).

c. Atmospheric Criteria:

- | | |
|-----------------------------------|----------------|
| i. Design temperature - heating: | 70degF |
| ii. Design temperature - cooling: | 75degF |
| iii. Temperature Tolerance: | ±2degF |
| iv. Relative humidity - summer: | 50% RH maximum |
| v. Relative humidity - winter: | 30% RH minimum |
| vi. Outside Air - cfm/person: | 20 minimum |
| vii. Air changes/hour: | 12 minimum |
| viii. Static pressure: | Neutral |
| ix. Exhaust air: | N/A |
| x. Heat generating equipment: | Lighting |
| xi. Miscellaneous equipment: | None |

d. Acoustical Criteria:

- | | |
|------------------------------------------|--------------------------------|
| i. Mechanical ambient noise criteria NC: | 45 |
| ii. Articulation class AC: | N/A |
| iii. Masking noise level dBA: | 45 |
| iv. Cig noise reduction coeff NRC: | 80 - 90 |
| v. Reverberation time RT60: | N/A |
| vi. Impact insulation class IIC: | Refer to sound isolation table |

Section V—Space Needs Program

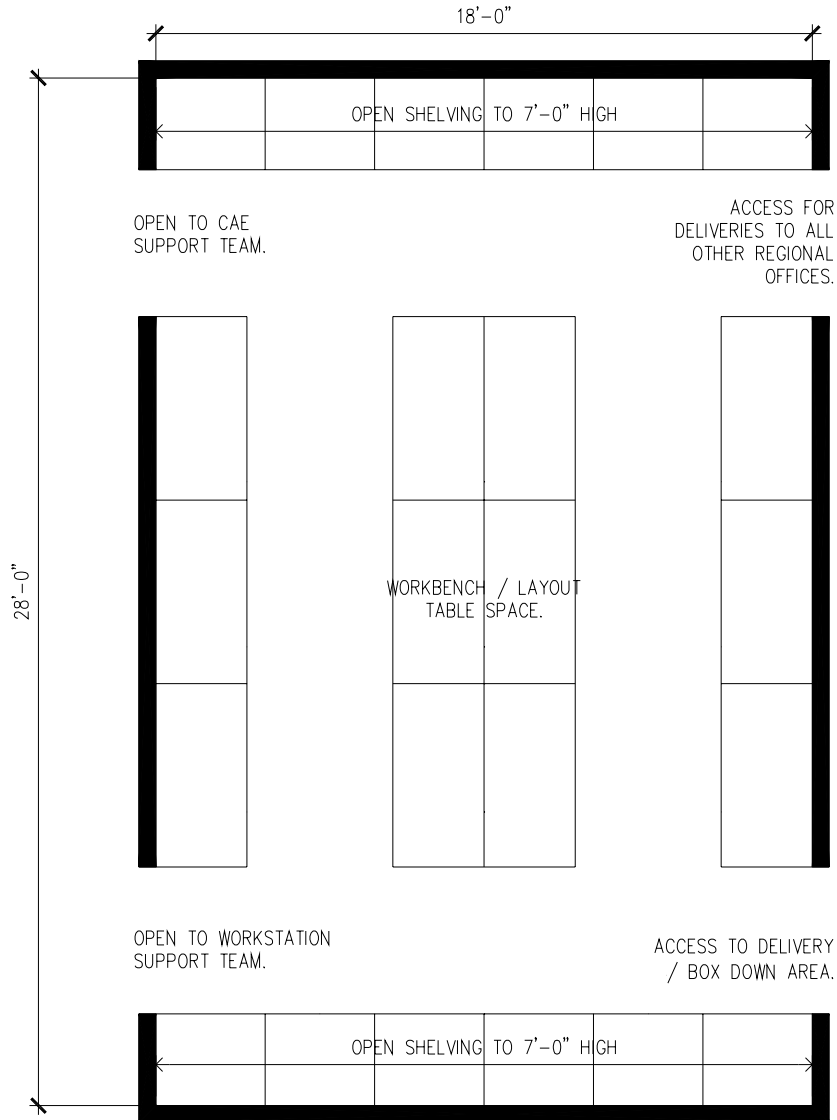
2. Administrative Office Program

E. Physical and Environmental Requirements

- vii. Sound transmission class STC: Refer to sound isolation table
- e. **Services:** None required: see lighting and electrical below.
- f. **Lighting Criteria:**
 - i. Lighting level: Section VI –2.D52.2.a
 - ii. Lighting distribution: N/A
 - iii. Task lighting: Below upper cabinets
 - iv. Dimmer: No
 - v. Emergency lighting: Yes
 - vi. Daylighting: N/A
 - vii. Daylight control: N/A
- g. **Electrical Criteria:**
 - i. PA system: Yes
 - Assistive Listening Device should accompany every room that has access to the PA system.
 - ii. Intercom: No
 - iii. Telephone/computer: Yes, 7 universal jacks (CAT6, see WSDOT Cable Standards)
 - iv. Television: No
 - v. Clock: No
 - vi. Individual switching: Yes, motion detection
 - vii. Master control switching: Yes
 - viii. Power outlets: Yes
 - Duplex receptacles above counters at 42” above finished floor (AFF) @ 3 ft O.C. along counters
 - ix. Emergency power: N/A
 - x. Smoke detector: Yes
 - xi. Heat detector: As required by code
- h. **Location:** Provide printer/plotter room near the building core, unless tenant adjacencies dictate otherwise.
- i. **Typical Computer Setup and Storage Room Layout:** (see diagram below)

Section V—Space Needs Program
2. Administrative Office Program
E. Physical and Environmental Requirements

Typical Computer Setup and Storage



COMPUTER SET UP & STORAGE

500 S.F.

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

11) Region Studies Library:

a. Room Finishes:

- i. Floor: Provide soft, sound absorbing surfaces such as carpet or carpet tiles.
- ii. Ceiling: Provide sound absorbing surfaces such as acoustical panels or hard surfaces such as gypsum board.
- iii. Walls: Provide hard, durable and easy to clean surfaces such as gypsum board.

b. Atmospheric Criteria:

- i. Design temperature - heating: 70degF
- ii. Design temperature - cooling: 75degF
- iii. Temperature Tolerance: ± 2 degF
- iv. Relative humidity - summer: 50% RH maximum
- v. Relative humidity - winter: 30% RH minimum
- vi. Outside Air - cfm/person: 20 minimum
- vii. Air changes/hour: 6 minimum
- viii. Static pressure: Neutral
- ix. Heat generating equipment: Lighting
- x. Miscellaneous equipment: None

c. Acoustical Criteria:

- i. Mechanical ambient noise criteria NC: 30
- ii. Articulation class AC: N/A
- iii. Masking noise level dBA: 42
- iv. Cig noise reduction coeff NRC: 60-70
- v. Reverberation time RT60: N/A
- vi. Impact insulation class IIC: Refer to sound isolation table
- vii. Sound transmission class STC: Refer to sound isolation table

d. Services: None required: see lighting and electrical below.

e. Lighting Criteria:

- i. Lighting level: Section VI –2.D52.2.a
- ii. Lighting distribution: Walls –light, well lit
- iii. Task lighting: Focus on lay-down table
- iv. Dimmer: Yes on task lighting

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

- | | |
|------------------------|-----------------------------|
| v. Emergency lighting: | No, unless required by code |
| vi. Daylighting: | Yes, when feasible |
| vii. Daylight control: | Section VI –2.D52.2.b.vi |

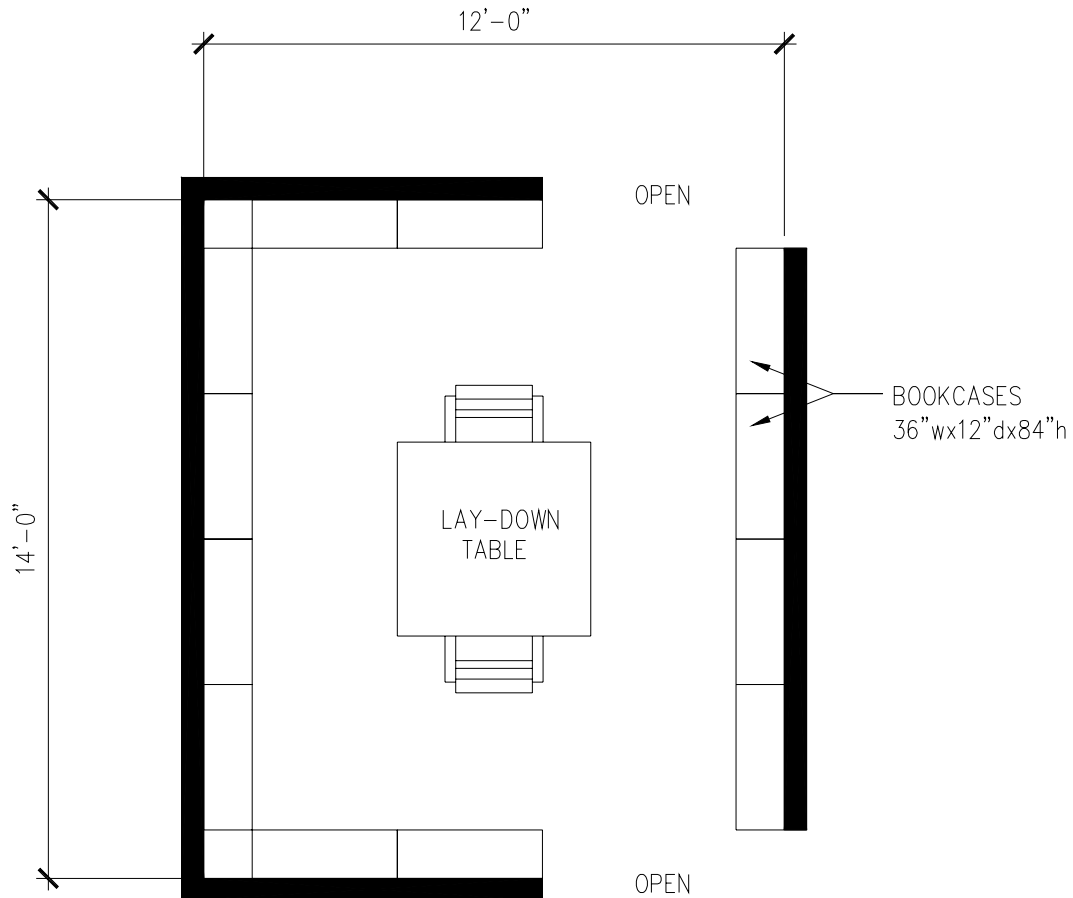
f. Electrical Criteria:

- | | |
|--------------------------------------------------------------------------------------------|----------------------------------------------------------|
| i. PA system: | Yes |
| • Assistive Listening Device should accompany every room that has access to the PA system. | |
| ii. Intercom: | No |
| iii. Telephone/data: | Yes, 2 universal jacks (CAT6, see WSDOT Cable Standards) |
| iv. Television: | No |
| v. Clock: | Yes |
| vi. Individual office space switching: | Yes |
| vii. Master control switching: | N/A |
| viii. Power outlets: | Yes |
| ix. Emergency power: | N/A |
| x. Smoke detector: | As required by code |
| xi. Heat detector: | As required by code |

g. Typical Library/Regional Studies Area Layout (see diagram below)

Section V—Space Needs Program
2. Administrative Office Program
E. Physical and Environmental Requirements

Typical Library / Regional Studies Area



LIBRARY
168 S.F.

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

12) Help Desk:

a. Room Finishes:

- i. Floor: Provide soft, sound absorbing surfaces such as carpet or carpet tiles.
- ii. Ceiling: Provide sound absorbing surfaces such as acoustical panels or hard surfaces such as gypsum board.
- iii. Walls: Provide hard, durable and easy to clean surfaces such as gypsum board or soft, sound absorbing surfaces such as wall fabric.

b. Atmospheric Criteria:

- i. Design temperature - heating: 70degF
- ii. Design temperature - cooling: 75degF
- iii. Temperature Tolerance: ± 2 degF
- iv. Relative humidity - summer: 50% RH maximum
- v. Relative humidity - winter: 30% RH minimum
- vi. Outside Air - cfm/person: 20 minimum
- vii. Air changes/hour: 6 minimum
- viii. Static pressure: Neutral
- ix. Heat generating equipment: Computer, lighting
- x. Miscellaneous equipment: None

c. Acoustical Criteria:

- i. Mechanical ambient noise criteria NC: 30
- ii. Articulation class AC: N/A
- iii. Masking noise level dBA: 42
- iv. Cig noise reduction coeff NRC: 60-70
- v. Reverberation time RT60: N/A
- vi. Impact insulation class IIC: Refer to sound isolation table
- vii. Sound transmission class STC: Refer to sound isolation table

d. Services: None required: see lighting and electrical below.

e. Lighting Criteria:

- i. Lighting level: Section VI –2.D52.2.a
- ii. Lighting distribution: Walls –light, well lit
- iii. Task lighting: Incorporate with furnishings

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

- | | |
|------------------------|-----------------------------|
| iv. Dimmer: | No |
| v. Emergency lighting: | No, unless required by code |
| vi. Daylighting: | Yes, when feasible |
| vii. Daylight control: | Section VI –2.D52.2.b.vi |

f. Electrical Criteria:

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| i. PA system: | Yes |
| <ul style="list-style-type: none">• Assistive Listening Device should accompany every room that has access to the PA system. | |
| ii. Intercom: | No |
| iii. Telephone: | Yes, 4 universal jacks
(CAT6, see WSDOT Cable Standards) |
| iv. Television: | No |
| v. Clock: | No |
| vi. Individual office space switching: | Yes |
| vii. Master control switching: | N/A |
| viii. Power outlets: | 2 isolated dedicated duplex
2 standard duplex |
| ix. Emergency power: | N/A |
| x. Smoke detector: | As required by code |
| xi. Heat detector: | As required by code |

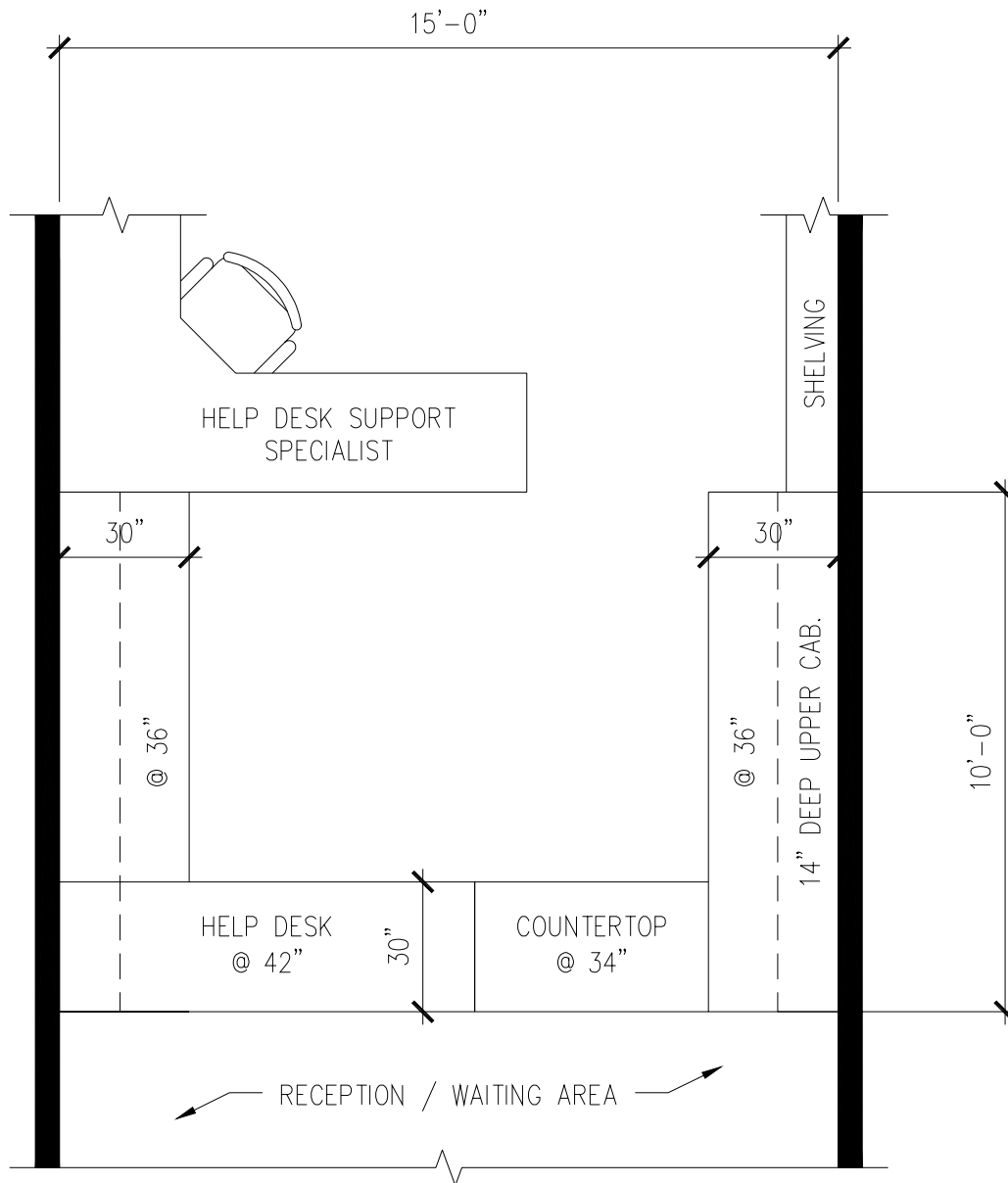
g. Comments:

- | |
|-------------------------------------------------------------------------------------------------------------------------------------|
| i. Provide a non-obtrusive method, such as a rollup grating, to secure the help desk from the common areas during non-office hours. |
|-------------------------------------------------------------------------------------------------------------------------------------|

h. Typical Help Desk Layout (see diagram below)

Section V—Space Needs Program
2. Administrative Office Program
E. Physical and Environmental Requirements

Typical Help Desk



HELP DESK
150 S.F.

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

13) Printer / Plotter area:

a. Room Finishes:

- i. Floor: Provide hard surfaces such as epoxy or vinyl tile.
- ii. Ceiling: Provide sound absorbing surfaces such as acoustical panels.
- iii. Walls: Provide hard, durable and easy to clean surfaces such as gypsum board. Provide a minimum of 10% lineal feet of the perimeter wall for tack board wall surface.

b. Equipment and furnishings:

- i. Provide space, electrical power, and data services for the following equipment and furnishings:
 - 1 copy machines (State supplied)
 - 2 printers (State supplied)
 - 1 plotter (State supplied)
 - 2- 30in. diameter recycle bins (State supplied)
- ii. Provide the following casework:
 - 20 lineal feet of upper cabinetry with under-cabinet light fixtures.
 - 25 lineal feet counter with shelves under (30" W x 36" H--shelves 18" deep).
 - 24" D x 96" W x 84" H cabinets with adjustable shelves for paper storage

c. Atmospheric Criteria:

- | | |
|-----------------------------------|-------------------------------|
| i. Design temperature - heating: | 70degF |
| ii. Design temperature - cooling: | 75degF |
| iii. Temperature Tolerance: | ±2degF |
| iv. Relative humidity - summer: | 50% RH maximum |
| v. Relative humidity - winter: | 30% RH minimum |
| vi. Outside Air - cfm/person: | 20 minimum |
| vii. Air changes/hour: | 12 minimum |
| viii. Static pressure: | Negative |
| ix. Exhaust air: | Yes, exhaust to outside |
| x. Heat generating equipment: | Copiers, etc. above, lighting |
| xi. Miscellaneous equipment: | None |

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

d. Acoustical Criteria:

i. Mechanical ambient noise criteria NC:	45
ii. Articulation class AC:	N/A
iii. Masking noise level dBA:	45
iv. Cig noise reduction coeff NRC:	80 - 90
v. Reverberation time RT60:	N/A
vi. Impact insulation class IIC:	Refer to sound isolation table
vii. Sound transmission class STC:	Refer to sound isolation table

e. **Services:** None required: see lighting and electrical below.

f. Lighting Criteria:

i. Lighting level:	Section VI –2.D52.2.a
ii. Lighting distribution:	Walls –light, well lit
iii. Task lighting:	Below upper cabinets
iv. Dimmer:	No
v. Emergency lighting:	Yes
vi. Daylighting:	None Req'd
vii. Daylight control:	No

g. Electrical Criteria:

i. PA system:	Yes
• Assistive Listening Device should accompany every room that has access to the PA system.	
ii. Intercom:	No
iii. Telephone/data:	Yes, 4 universal jacks (CAT6, see WSDOT Cable Standards)
iv. Television:	No
v. Clock:	No
vi. Individual switching:	Yes, motion detection
vii. Master control switching:	Yes
viii. Power outlets:	As required for equipment Duplex receptacles above counters at 42" above

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

finished floor (AFF) @ 6 ft
O.C. along counters

ix. Emergency power:

N/A

x. Smoke detector:

Yes

xi. Heat detector:

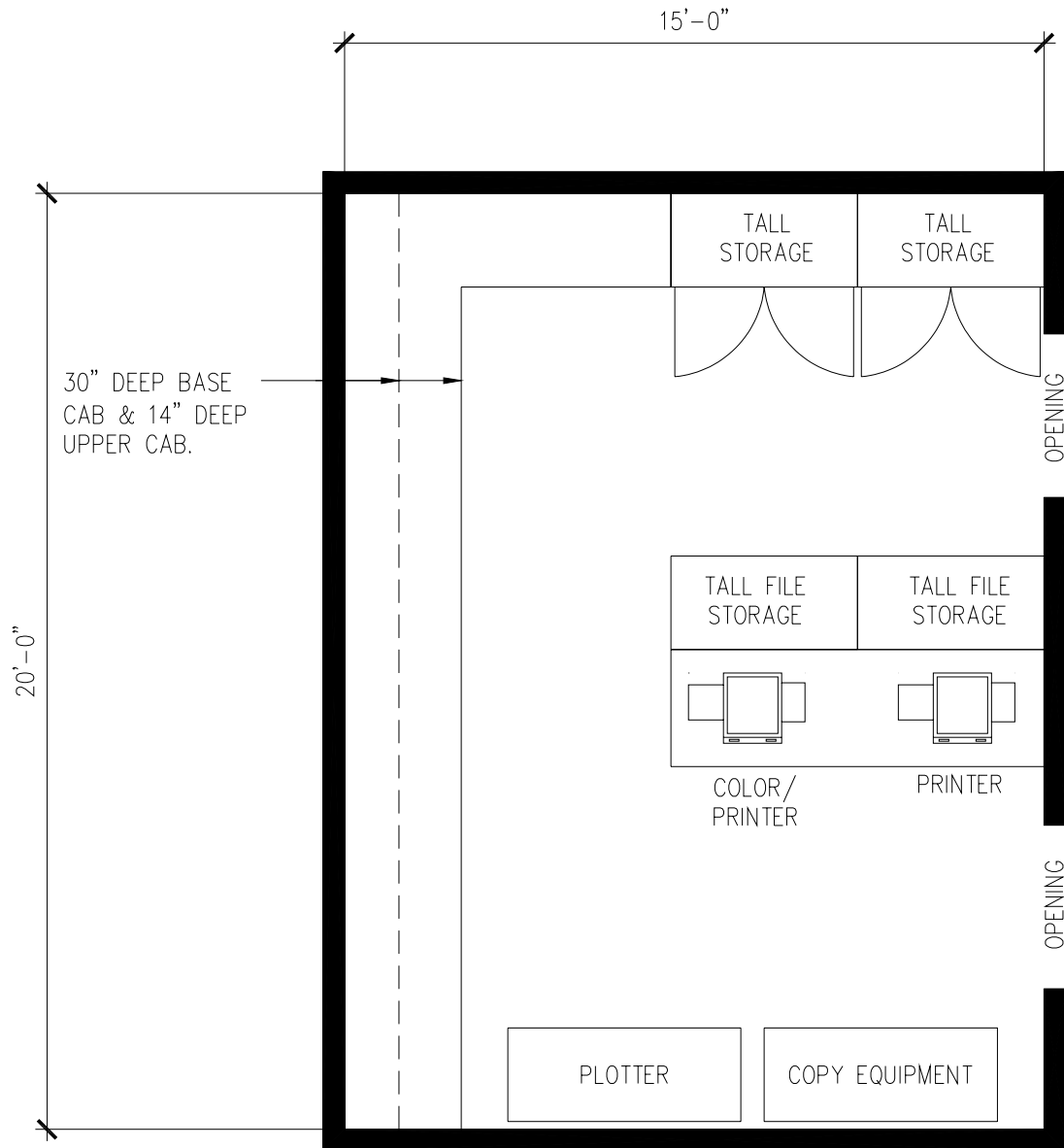
As required by code

h. Location: Provide printer/plotter room near the building core, unless tenant adjacencies dictate otherwise.

i. Typical Printer/Plotter Room Layout: (see diagram below)

Section V—Space Needs Program
2. Administrative Office Program
E. Physical and Environmental Requirements

Typical Printer -- Plotter Area



PRINTER / PLOTTER AREA

300 S.F.

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

14) Office Supply / Copier Rooms:

a. Room Finishes:

- i. Floor: Provide hard surfaces such as epoxy or vinyl tile.
- ii. Ceiling: Provide sound absorbing surfaces such as acoustical panels.
- iii. Walls: Provide hard, durable and easy to clean surfaces such as gypsum board. Provide a minimum of 10% lineal feet of the perimeter wall for tack board wall surface.

b. Equipment and furnishings:

- i. Provide space, electrical power, and data services for the following equipment and furnishings:
 - 2 copy machines (State supplied) for large copy rooms
 - 1 copy machine for medium sized copy rooms
 - 2 printers (State supplied) for large copy rooms
 - 1 printer for medium sized copy rooms
 - 1 fax machine (State supplied)
 - 4- 30in. diameter recycle bins (State supplied) for large copy rooms
 - 2- 30in. bins for medium sized copy rooms
- ii. Provide the following casework:
 - For medium copy rooms:
 - 12 lineal feet of upper cabinetry with under-cabinet light fixtures.
 - 12 lineal feet counter with shelves under (30" W x 36" H--shelves 18" deep).
 - For large copy rooms:
 - 48 lineal feet of upper cabinetry with under-cabinet light fixtures.
 - 36 lineal feet counter with shelves under (30" W x 36" H--shelves 18" deep).
 - 18" D x 48" W x 84" H cabinets with adjustable shelves for paper storage

c. Atmospheric Criteria:

- i. Design temperature - heating: 70degF
- ii. Design temperature - cooling: 75degF
- iii. Temperature Tolerance: ±2degF

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

iv. Relative humidity - summer:	50% RH maximum
v. Relative humidity - winter:	30% RH minimum
vi. Outside Air - cfm/person:	20 minimum
vii. Air changes/hour:	12 minimum
viii. Static pressure:	Negative
ix. Exhaust air:	Yes, exhaust to outside
x. Heat generating equipment:	Copiers, etc. above, lighting
xi. Miscellaneous equipment:	None

d. Acoustical Criteria:

i. Mechanical ambient noise criteria NC:	45
ii. Articulation class AC:	N/A
iii. Masking noise level dBA:	45
iv. Cig noise reduction coeff NRC:	80 - 90
v. Reverberation time RT60:	N/A
vi. Impact insulation class IIC:	Refer to sound isolation table
vii. Sound transmission class STC:	Refer to sound isolation table

e. Services: None required: see lighting and electrical below.

f. Lighting Criteria:

i. Lighting level:	Section VI –2.D52.2.a
ii. Lighting distribution:	Walls –light, well lit
iii. Task lighting:	Below upper cabinets
iv. Dimmer:	No
v. Emergency lighting:	Yes
vi. Daylighting:	None Req'd
vii. Daylight control:	No

g. Electrical Criteria:

i. PA system:	Yes
• Assistive Listening Device should accompany every room that has access to the PA system.	
ii. Intercom:	No
iii. Telephone:	Yes, 1 universal jack

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

(CAT6, see WSDOT Cable Standards)

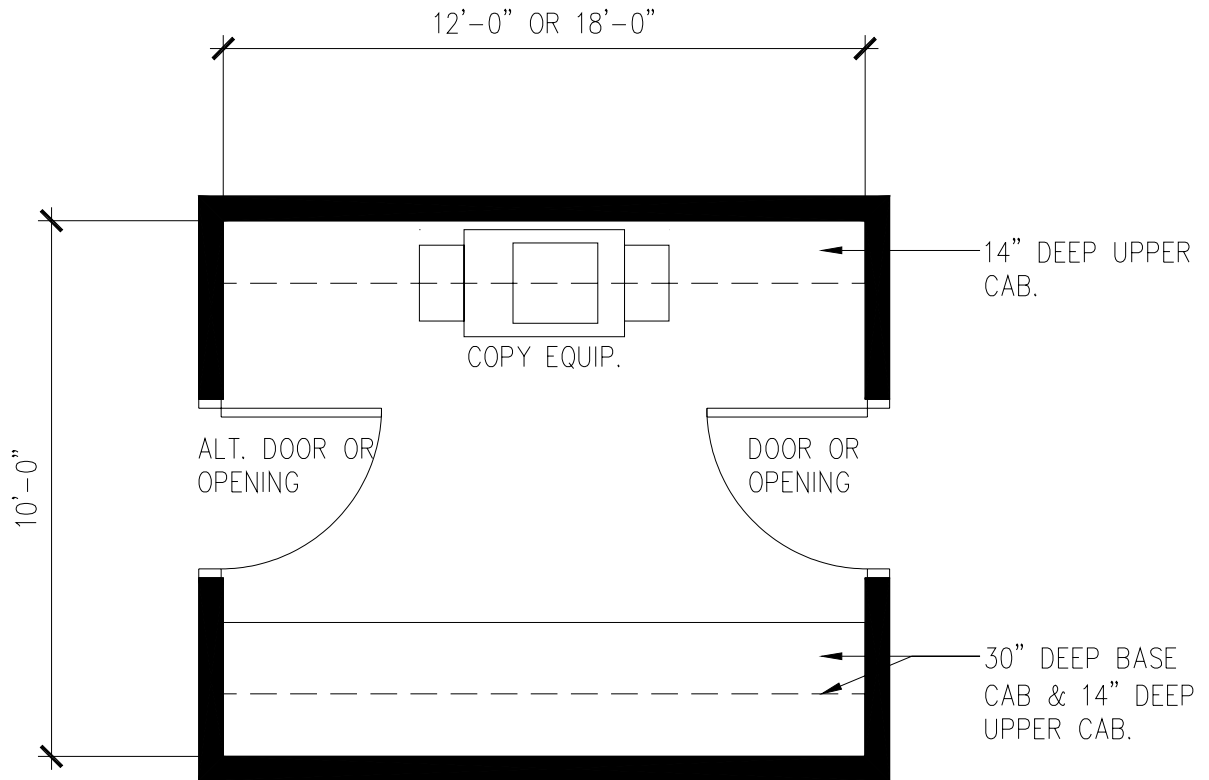
- | | |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| iv. Computer: | Yes, 1 universal jack per printer identified |
| v. Television: | No |
| vi. Clock: | No |
| vii. Individual switching: | Yes, motion detection |
| viii. Master control switching: | Yes |
| ix. Power outlets: | As required for equipment
Duplex receptacles above counters at 42" above finished floor (AFF) @ 6 ft O.C. along counters |
| x. Emergency power: | N/A |
| xi. Smoke detector: | Yes |
| xii. Heat detector: | As required by code |
- h. Location:** Provide office supply/copier rooms near the building core, unless tenant adjacencies dictate otherwise.
- i. Typical Office Supply / Copier Room Layouts:** (see diagrams below)

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

Typical Medium Sized Office Supply and Copy Room



OFFICE SUPPLY / COPY ROOM

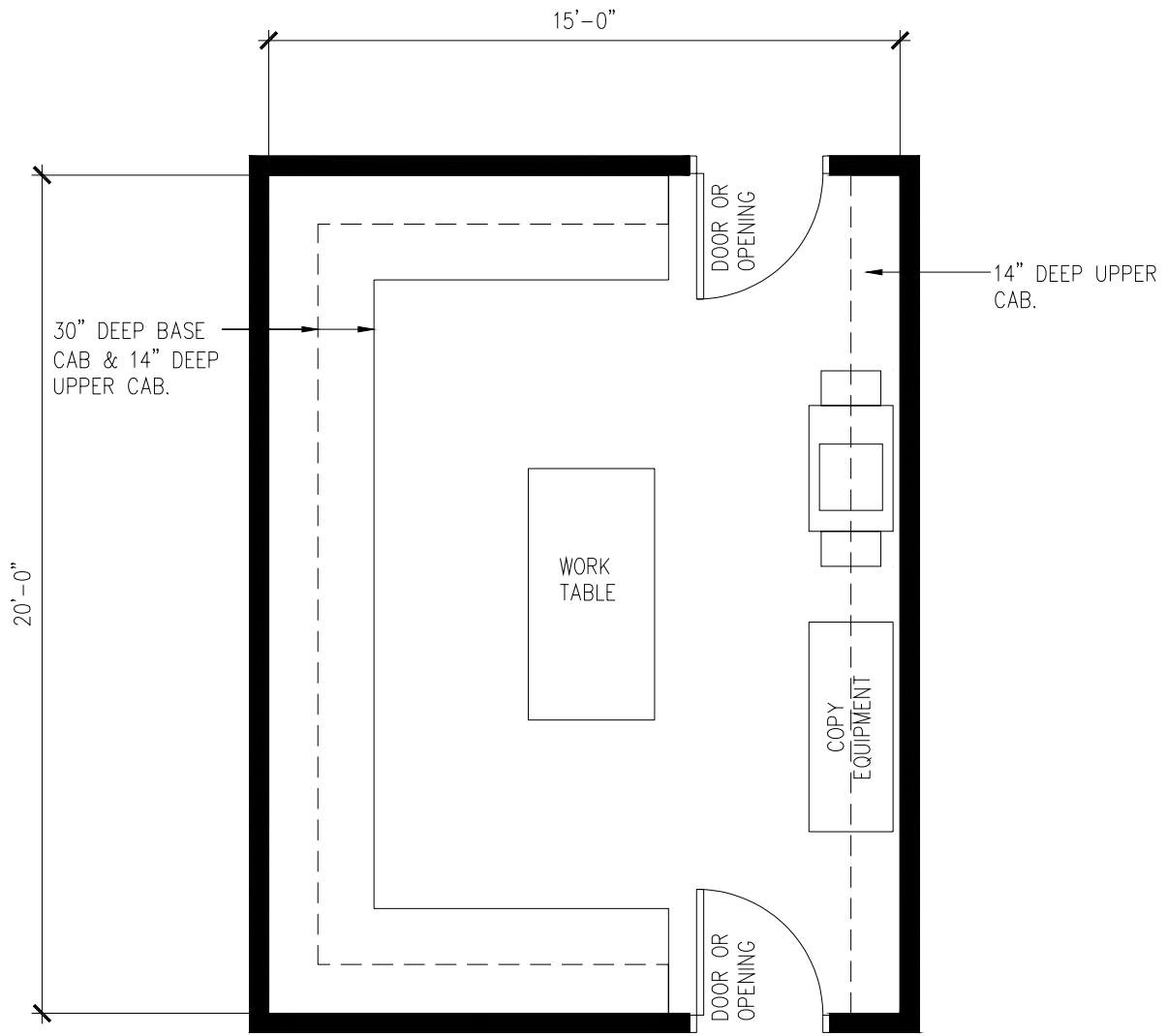
120 S.F. OR 180 S.F.

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

Typical Large Office Supply and Copy Room



OFFICE SUPPLY / COPY ROOM

300 S.F.

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

15) Printing Services:

a. Room Finishes:

- i. Floor: Provide hard surfaces such as epoxy or vinyl tile.
- ii. Ceiling: Provide sound absorbing surfaces such as acoustical panels.
- iii. Walls: Provide hard, durable and easy to clean surfaces such as gypsum board. Provide a minimum of 10% lineal feet of the perimeter wall for tack board wall surface.

b. Equipment and furnishings:

- i. Provide space, electrical power, and data services for the following equipment and furnishings:
 - 2 copy machines (State supplied)
 - 3 printer/plotters (State supplied)
 - 1 printer for medium sized copy rooms
 - 1 fax machine (State supplied)
 - 4- 30in. diameter recycle bins (State supplied)
- ii. Provide the following casework:
 - 28 lineal feet of upper cabinetry with under-cabinet light fixtures.
 - 40 lineal feet counter with shelves under (30" W x 36" H--shelves 18" deep).
 - 18" D x 48" W x 84" H cabinets with adjustable shelves for paper storage
 - 2- 40in. x 96in. layout tables

c. Atmospheric Criteria:

- | | |
|-----------------------------------|-------------------------------|
| i. Design temperature - heating: | 70degF |
| ii. Design temperature - cooling: | 75degF |
| iii. Temperature Tolerance: | ±2degF |
| iv. Relative humidity - summer: | 50% RH maximum |
| v. Relative humidity - winter: | 30% RH minimum |
| vi. Outside Air - cfm/person: | 20 minimum |
| vii. Air changes/hour: | 12 minimum |
| viii. Static pressure: | Negative |
| ix. Exhaust air: | Yes, exhaust to outside |
| x. Heat generating equipment: | Copiers, etc. above, lighting |

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

- | | |
|------------------------------|------|
| xi. Miscellaneous equipment: | None |
|------------------------------|------|
- d. Acoustical Criteria:**
- | | |
|------------------------------------------|--------------------------------|
| i. Mechanical ambient noise criteria NC: | 45 |
| ii. Articulation class AC: | N/A |
| iii. Masking noise level dBA: | 45 |
| iv. Cig noise reduction coeff NRC: | 80 - 90 |
| v. Reverberation time RT60: | N/A |
| vi. Impact insulation class IIC: | Refer to sound isolation table |
| vii. Sound transmission class STC: | Refer to sound isolation table |
- e. Services:** None required: see lighting and electrical below.
- f. Lighting Criteria:**
- | | |
|----------------------------|------------------------|
| i. Lighting level: | Section VI –2.D52.2.a |
| ii. Lighting distribution: | Walls –light, well lit |
| iii. Task lighting: | Below upper cabinets |
| iv. Dimmer: | No |
| v. Emergency lighting: | Yes |
| vi. Daylighting: | None Req'd |
| vii. Daylight control: | No |
- g. Electrical Criteria:**
- | | |
|--------------------------------------------------------------------------------------------|----------------------------------------------------------|
| i. PA system: | Yes |
| • Assistive Listening Device should accompany every room that has access to the PA system. | |
| ii. Intercom: | No |
| iii. Telephone: | Yes, 2 universal jacks (CAT6, see WSDOT Cable Standards) |
| iv. Computer: | Yes, 1 universal jack per printer identified |
| v. Television: | No |
| vi. Clock: | No |
| vii. Individual switching: | Yes, motion detection |
| viii. Master control switching: | Yes |

Section V—Space Needs Program

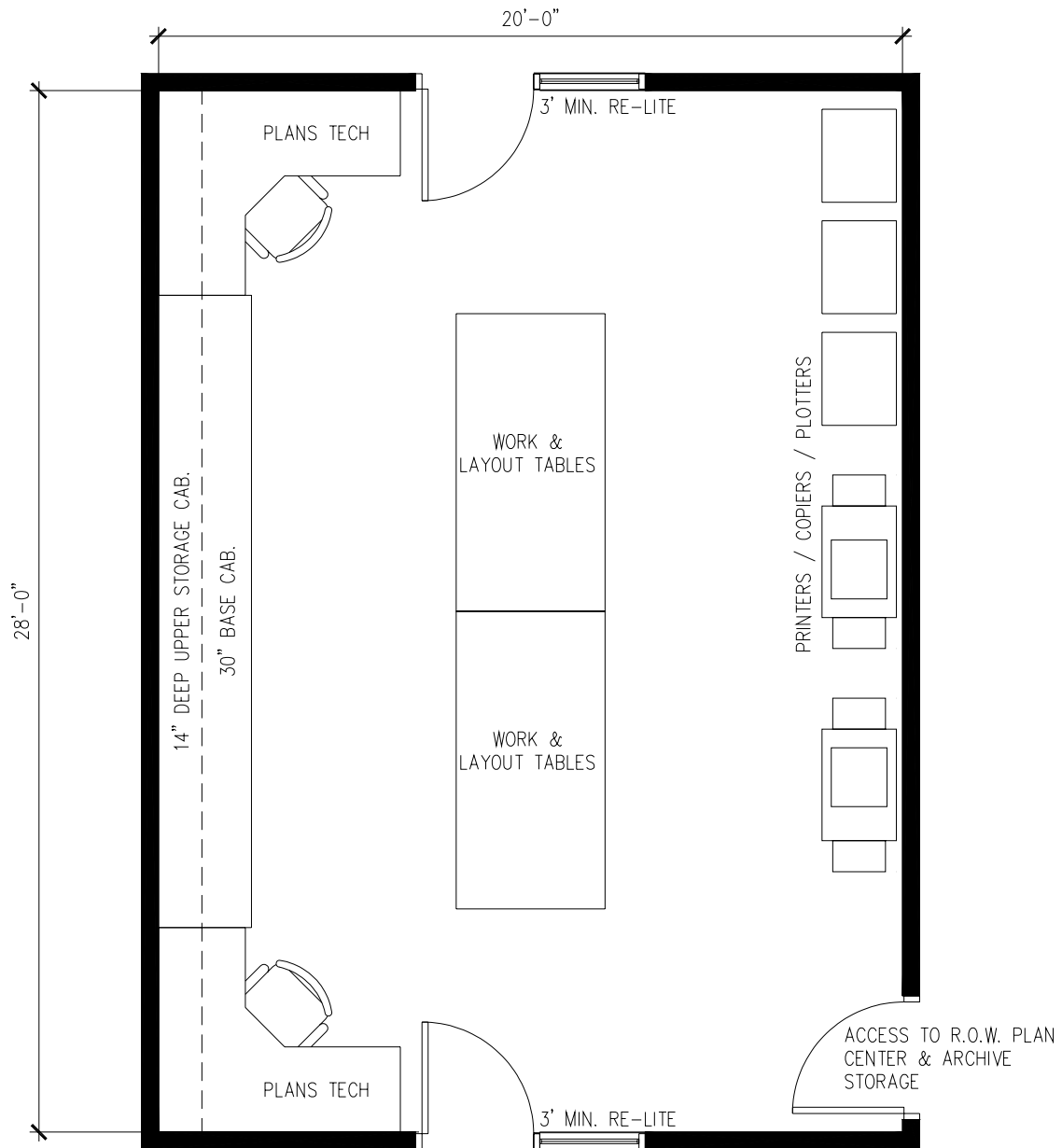
2. Administrative Office Program

E. Physical and Environmental Requirements

- ix. Power outlets: As required for equipment
Duplex receptacles above
counters at 42" above
finished floor (AFF) @ 6 ft
O.C. along counters
- x. Emergency power: N/A
- xi. Smoke detector: Yes
- xii. Heat detector: As required by code
- h. Location:** Provide office printing services near the plan center and archive storage, unless tenant adjacencies dictate otherwise.
- i. Typical Printing Services Layout:** (see layout below)

Section V—Space Needs Program
2. Administrative Office Program
E. Physical and Environmental Requirements

Typical Printing Services



PRINTING SERVICES

540 S.F.

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

16) Coffee Stations:

a. Room Finishes:

- i. Floor: Provide hard surfaces such as epoxy or vinyl tile.
- ii. Ceiling: Provide sound absorbing surfaces such as acoustical panels.
- iii. Walls: Provide hard, durable and easy to clean surfaces such as gypsum board. Provide a minimum 3 ft. x 4 ft. tack board wall surface. Provide wainscot above sink.

b. Equipment and furnishings:

- i. Provide space, plumbing and electrical power for the following:
 - 1 under counter refrigerator (State supplied)
 - 1 commercial coffee maker (State supplied)
 - 1 hot water dispenser
 - 1 stainless steel sink, with faucet, hose spray & drinking spout
- ii. Provide the following casework:
 - 8 lineal feet of upper cabinetry with under-cabinet light fixtures.
 - 8 lineal feet counter with sink (36in. height)

c. Atmospheric Criteria:

- | | |
|-----------------------------------|-------------------------|
| i. Design temperature - heating: | 70degF |
| ii. Design temperature - cooling: | 75degF |
| iii. Temperature Tolerance: | ±2degF |
| iv. Relative humidity - summer: | 50% RH maximum |
| v. Relative humidity - winter: | 30% RH minimum |
| vi. Outside Air - cfm/person: | 20 minimum |
| vii. Air changes/hour: | 6 minimum |
| viii. Static pressure: | Negative |
| ix. Exhaust air: | Yes, exhaust to outside |
| x. Heat generating equipment: | Microwave, coffee maker |
| xi. Miscellaneous equipment: | None |

d. Acoustical Criteria:

- | | |
|------------------------------------------|-----|
| i. Mechanical ambient noise criteria NC: | 35 |
| ii. Articulation class AC: | N/A |
| iii. Masking noise level dBA: | 45 |

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

- iv. Cig noise reduction coeff NRC: 60 - 70
- v. Reverberation time RT60: N/A
- vi. Impact insulation class IIC: Refer to sound isolation table
- vii. Sound transmission class STC: Refer to sound isolation table
- e. **Services:** Hot and cold water with waste and drain.
- f. **Lighting Criteria:**
 - i. Lighting level: Section VI –2.D52.2.a
 - ii. Lighting distribution: Walls –light, well lit
 - iii. Task lighting: Below upper cabinets
 - iv. Dimmer: No
 - v. Emergency lighting: Yes
 - vi. Daylighting: None Req'd
 - vii. Daylight control: No
- g. **Electrical Criteria:**
 - i. PA system: No
 - ii. Intercom: No
 - iii. Telephone: No
 - iv. Computer: No
 - v. Television: No
 - vi. Clock: No
 - vii. Individual switching: Yes, motion detection
 - viii. Master control switching: Yes
 - ix. Power outlets: As required for equipment
3- duplex receptacles above
counters at 42" above
finished floor (AFF), each
with dedicated circuit.
 - x. Emergency power: N/A
 - xi. Smoke detector: Yes
 - xii. Heat detector: As required by code
- h. **Location:** Provide office coffee stations near the building core, unless tenant
adjacencies dictate otherwise.

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

17) Lunchroom:

a. Room Finishes:

- i. Floor: Provide hard surfaces such as epoxy or vinyl tile near coffee/sink area and in the vending machine area. Provide soft, sound absorbing surfaces such as carpet or carpet tiles in the remaining area of lunchroom.
- ii. Ceiling: Provide sound absorbing surfaces such as acoustical panels.
- iii. Walls: Provide hard, durable and easy to clean surfaces such as gypsum board. Provide a minimum 3 ft. x 4 ft. tack board wall surface. Provide wainscot above sink.

b. Equipment and furnishings:

- i. Provide space, plumbing and electrical power for the following:
 - 1 full sized refrigerator- 36"W (State supplied)
 - 1 commercial coffee maker (State supplied)
 - 1 hot water dispenser
 - 1 stainless steel sink, with faucet, hose spray & drinking spout
- ii. Provide the following casework:
 - 8 lineal feet of upper cabinetry with under-cabinet light fixtures.
 - 8 lineal feet counter with sink (36in. height)
- iii. Provide space, plumbing and electrical power to supply 5 vending machines.

c. Atmospheric Criteria:

- | | |
|-----------------------------------|-------------------------|
| i. Design temperature - heating: | 70degF |
| ii. Design temperature - cooling: | 75degF |
| iii. Temperature Tolerance: | ±2degF |
| iv. Relative humidity - summer: | 50% RH maximum |
| v. Relative humidity - winter: | 30% RH minimum |
| vi. Outside Air - cfm/person: | 20 minimum |
| vii. Air changes/hour: | 6 minimum |
| viii. Static pressure: | Negative |
| ix. Exhaust air: | Yes, exhaust to outside |
| x. Heat generating equipment: | Microwave, coffee maker |
| xi. Miscellaneous equipment: | None |

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

d. Acoustical Criteria:

i. Mechanical ambient noise criteria NC:	35
ii. Articulation class AC:	N/A
iii. Masking noise level dBA:	45
iv. Cig noise reduction coeff NRC:	60 - 70
v. Reverberation time RT60:	N/A
vi. Impact insulation class IIC:	Refer to sound isolation table
vii. Sound transmission class STC:	Refer to sound isolation table

e. Services: Hot and cold water with waste and drain.

f. Lighting Criteria:

i. Lighting level:	Section VI –2.D52.2.a
ii. Lighting distribution:	Walls –light, well lit
iii. Task lighting:	Below upper cabinets
iv. Dimmer:	No
v. Emergency lighting:	Yes
vi. Daylighting:	Yes, if feasible
vii. Daylight control:	Yes

g. Electrical Criteria:

i. PA system:	Yes
ii. Intercom:	No
iii. Telephone:	No
iv. Computer:	No
v. Television:	No
vi. Clock:	Yes
vii. Individual switching:	N/A
viii. Master control switching:	Yes
ix. Power outlets:	As required for vending mach. 3- duplex receptacles above counters at 42” above finished floor (AFF), each with dedicated circuit.
x. Emergency power:	N/A

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

xi. Smoke detector: Yes

xii. Heat detector: As required by code

h. Location: Locate near the building exterior with access to daylight and view to exterior.

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

18) Toilet Rooms, Lockers and Showers:

a. Room Finishes:

- i. Floor: Provide hard, water resistant surfaces. Provide ceramic tile floors in administrative office building.
- ii. Ceiling: Provide hard, water resistant surfaces such as gypsum board with easy to clean surfaces.
- iii. Walls: Provide hard, water resistant, durable and easy to clean surfaces. In administrative office building, provide ceramic tile at least to height of doors.

b. Equipment and furnishings:

- i. Provide fixtures as required to meet code.
- ii. Provide the following accessories in toilet rooms:
 - Toilet paper holder and sanitary seat protector dispenser at each W.C.
 - Full length mirror w/shelf over lavatories
 - Soap dispenser at each lavatory
 - Toilet partitions
 - Recessed waste receptacle
 - Electric hand dryers
 - Sanitary napkin dispenser (women's only)
 - Sanitary napkin disposal at each W.C. (women's only)
- iii. Provide drinking fountain outside, but adjacent to, the toilet rooms.
 - Provide plastic laminate or ceramic tile on wall(s) adjacent to drinking fountain.
- iv. In shower rooms, provide:
 - Pressure balancing shower faucets.
 - Lockers.
 - Bench with arms.
 - Showers with head height at 6'-8" for men and 6'-3" for women.
 - In accessible shower, provide a shower spay unit with a hose at least 60" long that can be used as a fixed showerhead or as a hand-held shower. Controls on same wall as shower spray unit and not less than 38 inches or more than 48 above the shower floor.

c. Atmospheric Criteria:

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

i.	Design temperature - heating:	70degF
ii.	Design temperature - cooling:	75degF
iii.	Temperature Tolerance:	±2degF
iv.	Relative humidity - summer:	50% RH maximum
v.	Relative humidity - winter:	NA
vi.	Outside Air - cfm/person:	20 minimum
vii.	Air changes/hour:	15 minimum
viii.	Static pressure:	Negative
ix.	Exhaust air:	Yes, to exterior
x.	Heat generating equipment:	Hair dryer, lighting
xi.	Miscellaneous equipment:	None
d. Acoustical Criteria:		
i.	Mechanical ambient noise criteria NC:	45
ii.	Articulation class AC:	N/A
iii.	Masking noise level dBA:	N/A
iv.	Cig noise reduction coeff NRC:	60-70
v.	Reverberation time RT60:	N/A
vi.	Impact insulation class IIC:	Refer to sound isolation table
vii.	Sound transmission class STC:	Refer to sound isolation table
e. Services:		
i.	Hot and cold water to fixtures	
ii.	Waste and drain	
iii.	Floor drains.	
f. Lighting Criteria:		
i.	Ambient lighting level:	Section VI –2.D52.2.a
ii.	Task lighting:	Yes, at mirrors
iii.	Dimmer:	No
iv.	Emergency lighting:	Yes
v.	Daylighting:	No
vi.	Daylight control:	No
g. Electrical Criteria:		
i.	PA system:	Yes

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

- Assistive Listening Device should accompany every room that has access to the PA system.

ii. Intercom:	No
iii. Telephone:	N/A
iv. Computer:	N/A
v. Television:	N/A
vi. Clock:	No
vii. Individual space switching:	N/A
viii. Master control switching:	Yes
ix. Power outlets:	Yes, by code
x. Emergency power:	N/A
xi. Smoke detector:	Yes
xii. Heat detector:	As required by code

h. Comments:

- i. Layout of toilet room entries should prevent visual sightings of occupants from adjoining spaces.

i. Location:

- i. Maximum distance to a toilet room should be 150ft.

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

19) Delivery / Mail Room / Box Down Area:

a. Room Finishes:

- i. Floor: Provide hard surfaces such as epoxy or vinyl tile.
- ii. Ceiling: Provide sound absorbing surfaces such as acoustical panels.
- iii. Walls: Provide hard, durable and easy to clean surfaces such as gypsum board.

b. Equipment and furnishings:

- i. Provide the following casework:
 - 16 lineal feet of open shelving (30in W x 7ft Ht).

c. Atmospheric Criteria:

- | | |
|-----------------------------------|-------------------------------|
| i. Design temperature - heating: | 70degF |
| ii. Design temperature - cooling: | 75degF |
| iii. Temperature Tolerance: | ±2degF |
| iv. Relative humidity - summer: | 50% RH maximum |
| v. Relative humidity - winter: | NA |
| vi. Outside Air - cfm/person: | 20 minimum |
| vii. Air changes/hour: | 6 minimum |
| viii. Static pressure: | Negative |
| ix. Heat generating equipment: | Mail room equipment, lighting |
| x. Miscellaneous equipment: | None |

d. Acoustical Criteria:

- | | |
|------------------------------------------|--------------------------------|
| i. Mechanical ambient noise criteria NC: | 45 |
| ii. Articulation class AC: | N/A |
| iii. Masking noise level dBA: | 48 |
| iv. Cig noise reduction coeff NRC: | 80-90 |
| v. Reverberation time RT60: | N/A |
| vi. Impact insulation class IIC: | Refer to sound isolation table |
| vii. Sound transmission class STC: | Refer to sound isolation table |

e. Services: None required: see lighting and electrical below.

f. Lighting Criteria:

- | | |
|----------------------------|-----------------------|
| i. Ambient lighting level: | Section VI –2.D52.2.a |
| ii. Task lighting: | No |

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

- | | |
|-------------------------|-----------|
| iii. Dimmer: | No |
| iv. Emergency lighting: | Yes |
| v. Daylighting: | Not req'd |
| vi. Daylight control: | No |

g. Electrical Criteria:

- | | |
|--------------------------------------------------------------------------------------------|----------------------------------------------------------|
| i. PA system: | Yes |
| • Assistive Listening Device should accompany every room that has access to the PA system. | |
| ii. Intercom: | No |
| iii. Telephone/data: | Yes, 3 universal jacks (CAT6, see WSDOT Cable Standards) |
| iv. Television: | No |
| v. Clock: | Yes |
| vi. Individual space switching: | Yes, motion detection |
| vii. Master control switching: | Yes |
| viii. Power outlets: | Yes, by code |
| ix. Emergency power: | N/A |
| x. Smoke detector: | Yes |
| xi. Heat detector: | As required by code |

h. Comments:

- i. Provide a method to secure the area.
- ii. Provide for bump-open doors.

i. Location:

- i. Locate adjacent to shipping and receiving.
- ii. Locate adjacent to computer setup the area.
- iii. Provide direct access or ramp to ground level.
- iv. Provide dedicated parking immediately adjacent to door for mail or courier deliveries.

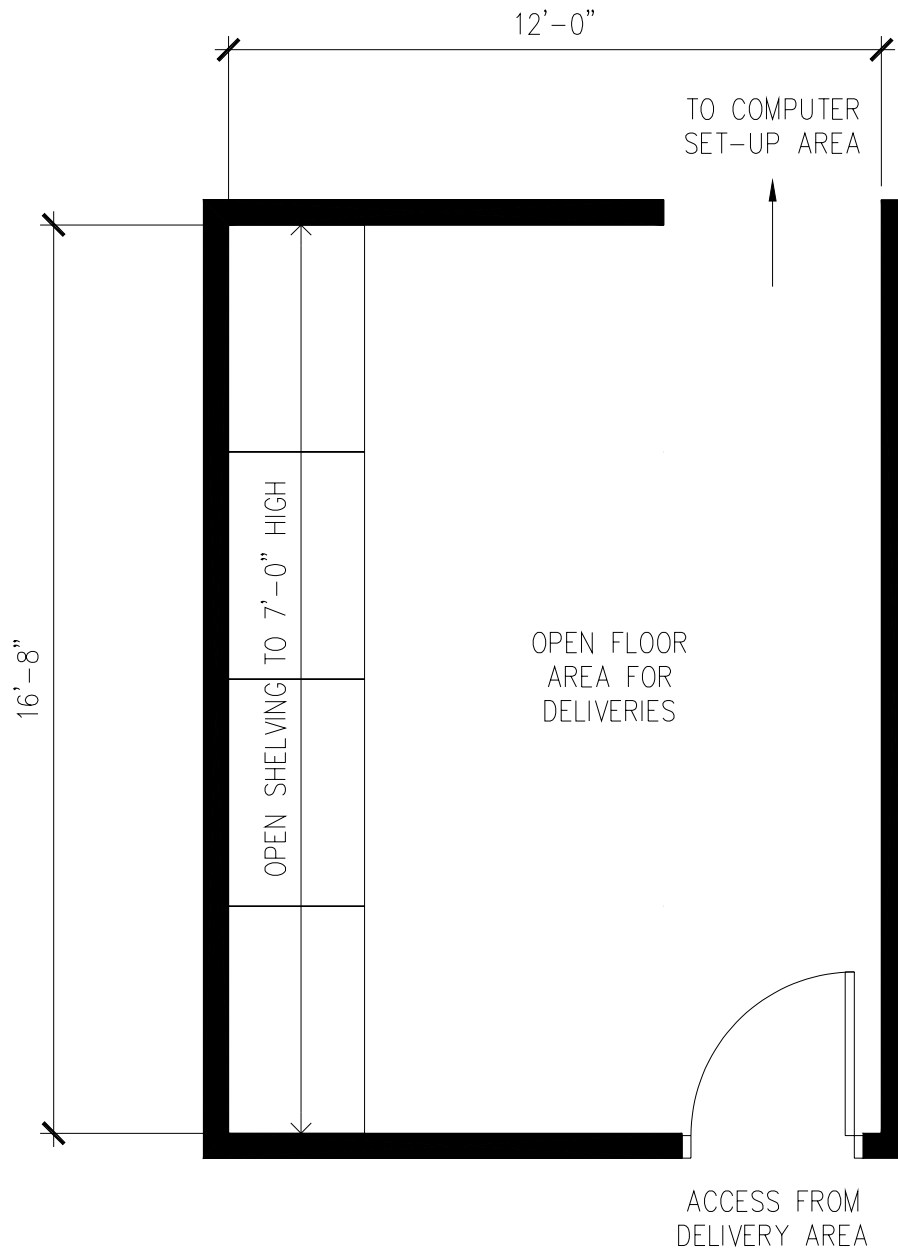
j. Typical Delivery / Box Down Layout (see diagram below)

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

Typical Delivery and Box Down Area



DELIVERY / BOX DOWN AREA

200 S.F.

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

20) File / Storage Space:

a. Room Finishes:

- i. Floor: Provide hard surfaces such as epoxy or vinyl tile.
- ii. Ceiling: Provide sound absorbing surfaces such as acoustical panels.
- iii. Walls: Provide hard, durable and easy to clean surfaces such as gypsum board.

b. Atmospheric Criteria:

- i. Design temperature - heating: 70degF
- ii. Design temperature - cooling: 75degF
- iii. Temperature Tolerance: ± 2 degF
- iv. Relative humidity - summer: 50% RH maximum
- v. Relative humidity - winter: NA
- vi. Outside Air - cfm/person: 20 minimum
- vii. Air changes/hour: 6 minimum
- viii. Static pressure: Neutral
- ix. Heat generating equipment: Lighting
- x. Miscellaneous equipment: None

c. Acoustical Criteria:

- i. Mechanical ambient noise criteria NC: 50
- ii. Articulation class AC: N/A
- iii. Masking noise level dBA: N/A
- iv. Cig noise reduction coeff NRC: N/A
- v. Reverberation time RT60: N/A
- vi. Impact insulation class IIC: N/A
- vii. Sound transmission class STC: N/A

d. Services: None required: see lighting and electrical below.

e. Lighting Criteria:

- i. Ambient lighting level: Section VI –2.D52.2.a
- ii. Task lighting: No
- iii. Dimmer: No
- iv. Emergency lighting: No
- v. Daylighting: No

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

- | | |
|-----------------------------------------|---------------------|
| vi. Daylight control: | No |
| f. Electrical Criteria: | |
| i. PA system: | No |
| ii. Intercom: | No |
| iii. Telephone: | No |
| iv. Computer: | No |
| v. Television: | No |
| vi. Clock: | No |
| vii. Individual space switching: | Yes |
| viii. Master control switching: | No |
| ix. Power outlets: | Yes, by code |
| x. Emergency power: | No |
| xi. Smoke detector: | Yes |
| xii. Heat detector: | As required by code |
| g. Comments: | |
| i. Provide a method to secure the area. | |

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

21) General Building Storage:

a. Room Finishes:

- i. Floor: Provide hard surfaces such as epoxy or vinyl tile.
- ii. Ceiling: Provide hard, durable surfaces such as gypsum board.
- iii. Walls: Provide hard, durable and easy to clean surfaces such as gypsum board.

b. Atmospheric Criteria:

- i. Design temperature - heating: 70degF
- ii. Design temperature - cooling: NA
- iii. Temperature Tolerance: ± 2 degF
- iv. Relative humidity - summer: NA
- v. Relative humidity - winter: NA
- vi. Outside Air - cfm/person: NA
- vii. Air changes/hour: NA
- viii. Static pressure: Neutral
- ix. Heat generating equipment: Lighting
- x. Miscellaneous equipment: None

c. Acoustical Criteria:

- i. Mechanical ambient noise criteria NC: 50
- ii. Articulation class AC: N/A
- iii. Masking noise level dBA: N/A
- iv. Cig noise reduction coeff NRC: N/A
- v. Reverberation time RT60: N/A
- vi. Impact insulation class IIC: N/A
- vii. Sound transmission class STC: N/A

d. Services: None required: see lighting and electrical below.

e. Lighting Criteria:

- i. Ambient lighting level: Section VI –2.D52.2.a
- ii. Task lighting: No
- iii. Dimmer: No
- iv. Emergency lighting: No
- v. Daylighting: No

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

- | | |
|-----------------------------------------|---------------------|
| vi. Daylight control: | No |
| f. Electrical Criteria: | |
| i. PA system: | No |
| ii. Intercom: | No |
| iii. Telephone: | No |
| iv. Computer: | No |
| v. Television: | No |
| vi. Clock: | No |
| vii. Individual space switching: | Yes |
| viii. Master control switching: | No |
| ix. Power outlets: | Yes, by code |
| x. Emergency power: | No |
| xi. Smoke detector: | Yes |
| xii. Heat detector: | As required by code |
| g. Comments: | |
| i. Provide a method to secure the area. | |

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

22) Mechanical / Electrical / Janitor Rooms:

a. Room Finishes:

- i. Floor: Provide hard surfaces such as epoxy or vinyl tile.
- ii. Ceiling: No requirement.
- iii. Walls: Provide hard, durable and easy to clean surfaces such as gypsum board or concrete. For shielded walls, provide foil-backed gypsum wall board surrounding the room.

b. Equipment and furnishings:

- i. In a janitor rooms provide:
 - Floor sink, with waterproof backsplash, minimum 3ft. high.
 - Space to accommodate vacuum cleaners, pails, and ladders.
 - Racks for storage of mops, brooms, etc.
 - 10 lineal feet of shelving 12" deep
 - Space for storage of cart for recycling barrels (State provided)

c. Atmospheric Criteria:

- | | |
|-----------------------------------|--------------------------|
| i. Design temperature - heating: | 70degF |
| ii. Design temperature - cooling: | 85degF |
| iii. Temperature Tolerance: | ±2degF |
| iv. Relative humidity - summer: | NA |
| v. Relative humidity - winter: | NA |
| vi. Outside Air - cfm/person: | NA |
| vii. Exhaust to outside: | Janitor rooms |
| viii. Static pressure: | Neutral |
| ix. Heat generating equipment: | Mech. & elect. equipment |
| x. Miscellaneous equipment: | None |

d. Acoustical Criteria

- | | |
|------------------------------------------|-----|
| i. Mechanical ambient noise criteria NC: | N/A |
| ii. Articulation class AC: | N/A |
| iii. Masking noise level dBA: | N/A |
| iv. Cig noise reduction coeff NRC: | N/A |
| v. Reverberation time RT60: | N/A |
| vi. Impact insulation class IIC: | N/A |
| vii. Sound transmission class STC: | N/A |

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

e. Services:

- i. Hot and cold water with floor sink if used for janitor services.
- ii. Hose bib in mechanical areas.
- iii. Waste and drain, including floor drain for equipment as required.

f. Lighting Criteria:

- i. Ambient lighting level: Section VI –2.D52.2.a
- ii. Task lighting: No
- iii. Dimmer: No
- iv. Emergency lighting: Yes
- v. Daylighting: No
- vi. Daylight control: No

g. Electrical Criteria:

- i. PA system: No
- ii. Intercom: No
- iii. Telephone: Yes
- iv. Computer: Yes
- v. Television: No
- vi. Clock: No
- vii. Individual space switching: Yes
- viii. Master control switching: No
- ix. Power outlets: Yes, by code
- x. Special power: Yes, as req'd by equipment
- xi. Emergency power: Yes
- xii. Smoke detector: Yes
- xiii. Heat detector: Yes, if required by code

h. Comments:

- i. Provide a method to secure the area.
- ii. Provide enough space around equipment for servicing by maintenance personnel.
- iii. Provide 4" high concrete housekeeping pads for floor mounted equipment.
- iv. Where appropriate in mechanical areas, provide 6" high curb at perimeter of room and at all floor openings.

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

- i. Location:** Locate janitor rooms near toilet rooms.

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

23) Corridor and Stairs:

- a. **Room Finishes:** Provide attractive finishes to encourage use of stairs.
 - i. Floor: Provide hard surfaces such as epoxy or vinyl tile. Soft, sound absorbing surfaces such as carpet or carpet tiles are allowed in lower wear corridors.
 - ii. Ceiling: Provide a finished ceiling compatible with other building ceiling finishes.
 - iii. Walls: Provide hard, durable and easy to clean surfaces such as gypsum board or concrete. Provide corner guards and wall guards where appropriate.
 - iv. Stair Tread: Provide non-slip treads and nosing.
- b. **Equipment and furnishings:** None
- c. **Atmospheric Criteria:**
 - i. Design temperature - heating: 70degF
 - ii. Design temperature - cooling: 75degF
 - iii. Temperature Tolerance: ± 2 degF
 - iv. Relative humidity - summer: 50%
 - v. Relative humidity - winter: NA
 - vi. Outside Air - cfm/person: 20
 - vii. Air changes/hour: 6
 - viii. Static pressure: Neutral
 - ix. Heat generating equipment: Lighting
 - x. Miscellaneous equipment: None
- d. **Acoustical Criteria:**
 - i. Mechanical ambient noise criteria NC: 45
 - ii. Articulation class AC: N/A
 - iii. Masking noise level dBA: 50
 - iv. Cig noise reduction coeff NRC: 60 - 70
 - v. Reverberation time RT60: N/A
 - vi. Impact insulation class IIC: N/A
 - vii. Sound transmission class STC: N/A
- e. **Services:** None required. See lighting and electrical below.

Section V—Space Needs Program

2. Administrative Office Program

E. Physical and Environmental Requirements

f. Lighting Criteria:

- | | |
|----------------------------|-----------------------|
| i. Ambient lighting level: | Section VI –2.D52.2.a |
| ii. Task lighting: | No |
| iii. Dimmer: | No |
| iv. Emergency lighting: | Yes |
| v. Daylighting: | Yes, if possible |
| vi. Daylight control: | No |

g. Electrical Criteria:

- | | |
|----------------------------------|--------------------------|
| i. PA system: | Yes |
| ii. Intercom: | No |
| iii. Telephone: | No |
| iv. Computer: | No |
| v. Television: | No |
| vi. Clock: | No |
| vii. Individual space switching: | No |
| viii. Master control switching: | Yes |
| ix. Power outlets: | Yes |
| x. Emergency power: | No |
| xi. Smoke detector: | Yes |
| xii. Heat detector: | Yes, if required by code |

h. Comments:

- i. Provide open stairways and corridors were allowed by code.

i. Location:

- i. Locate stairways near major circulation cores.
- ii. Where appropriate, make stairs clearly visible and attractive from the main lobby.

Section V—Space Needs Program

3. Maintenance Shops Program

3. Maintenance Shops Program

A. General:

B. In the fall of 2005, the consultant MDG (Maintenance Design Group) completed a programming effort that culminated in a Design Charrette. During the Charrette, a number of potential solutions were explored with the State's maintenance shops facility staff. Detailed information from this programming effort is included in attachment Section VII—2.B and has been summarized in parts of this RFP.

Note: The data in this RFP are more current than the original MDG Program report; in case of conflict, use the data in the RFP.

Section V—Space Needs Program

3. Maintenance Shops Program

B. Functional and Operational Characteristics

C. Functional and Operational Characteristics:

1) Materials Lab

- a. **Function:** The function of the Materials Lab is to conduct materials testing for the region and provide testing support for the project offices. The Materials Lab develops a variety of reports and conducts field testing. Testing equipment is stored, distributed and repaired in the maintenance facility. In conjunction with its testing function, the Materials Lab also administers the Construction Tester Qualification Program and is a Region Construction Inspector training facility.
- b. **Staffing:** The Materials Lab staff hours of operation are daytime. After-hours access is needed for night work. The following table presents a list of the Materials Lab staff.

MATERIALS LAB STAFF					
POSITION	<i>Existing 2005</i>	<i>Program 2010</i>	<i>Office*</i>	<i>Work Carrel</i>	<i>Locker</i>
Region Materials Engineer	1	1	P		
Asst. Materials Engineer	0	1	P		X
Secretary	1	1		X	X
Construction Trainer	1	(1)	Admin		
Soils/Pavement Engineer	1	1	P		X
Lab Supervisor	1	1	P		X
IA Inspector	1	1	S		X
Asst. IA Inspector	1	1	S		X
Lab Technician	1	2		X	X
TOTAL	8	9			

* P: Private Office; S: Shared Office

Section V—Space Needs Program

3. Maintenance Shops Program

B. Functional and Operational Characteristics

- c. **Vehicles:** The following table presents a list of the Materials Lab vehicle and equipment requirements.

MATERIALS LAB VEHICLES					
VEHICLE	<i>Existing 2005</i>	<i>Program 2010</i>	<i>Exterior</i>	<i>Canopy Covered</i>	<i>Enclosed Heated</i>
SUV	2	2	X		
Pick-Up Truck S-10	1	1	X		
Pick-Up Truck Full Size	3	3	X		
Sedan	0	1	X		
Coring Machine	1	1		X	
TOTAL	7	8			

- d. **Affinities:** The following functional relationships should be provided in the planning of site and floor plans:
- Consideration within the facility should take into account the loud noise level, heavy vibrations, and odors produced by the Materials Lab.
 - Prefer to be at end of building.
 - Should be adjacent to Project Engineering Construction Materials Lab.
- e. **Key Planning Issues:** The following issues should be considered in planning and design for the Materials Lab:
- Office Areas
 - An administrative area should include a shared office for the IA Inspector and Assistant IA Inspector, and private offices for the Region Materials Engineer, Assistant Region Materials Engineer, and Soils/Pavement Engineer
 - The Secretary's workstation should serve as a reception area and have access to the copy/fax/work space and file storage.
 - The Lab Supervisor should be provided with a private office adjacent to the lab.
 - The Lab Technicians need a workstation with a computer located adjacent to the lab.
 - A locker alcove for personal storage will be provided.
 - Lab / Storage
 - Material lab should be organized by process for circulation purposes, with adequate space to accommodate training classes.
 - Concrete pads to dampen vibrations of testing equipment should be provided.

Section V—Space Needs Program

3. Maintenance Shops Program

B. Functional and Operational Characteristics

- Testing equipment storage needs to be secure.
- Lab storage needed for nuclear gauges within a secured storage room with minimal distance of 15 feet from any person's workstation or reduce inside room radiation of 2.6 mrem/hr to .20 mrem/hr outside storage room wall.
- The Shaker and Drying /Breakdown Room needs to be adaptable for large equipment that is on a 10-year replacement cycle. An overhead door or double doors should be provided.
- Receiving area needs to be covered to protect after-hours deliveries of samples.
- A filter and cleanout to prevent fine sediment from building up in all sink drains is needed. Provide sediment trap outside building with outfall to storm sewer.
- Sound proofing is needed around Shaker and Breakdown Rooms.
- Provide dust collection system for equipment in Shaker/Crusher Rooms and aggregate breakdown room.
- Compressed air system is needed throughout all lab spaces.
- Provide 36-inch-deep stainless steel counters with storage below around the walls of the Lab.
- Provide double-door access to each lab space for care of transferring samples.
- Provide through-the-wall waste removal system to remove asphalt and aggregate samples for recycling.
- Provide exhaust hood for gas burners in HMA testing and soils testing rooms.

2) Construction PE

- Function:** Project Engineering Construction conducts acceptance testing for materials used on their construction projects. The Construction PE's develop a variety of testing reports.
- Staffing:** The Construction PE staff hours of operation are typical daytime hours. After-hours access is needed for night work. The staff for Construction will be located in the Administration Building.
- Vehicles:** The following table presents a list of the Construction PE vehicle and equipment requirements.

CONSTRUCTION PE VEHICLES					
VEHICLE	<i>Existing 2005</i>	<i>Program 2010</i>	<i>Exterior</i>	<i>Canopy Covered</i>	<i>Enclosed Heated</i>
Pick-Up Truck Full Size	35	35	X		
TOTAL	35	35			

Section V—Space Needs Program

3. Maintenance Shops Program

B. Functional and Operational Characteristics

- d. Affinities:** The following functional relationships should be provided in the planning of site and floor plans:
 - i. Consideration within the facility should take into account the loud noise level, heavy vibrations, and odors produced by the Construction PE Labs.
 - ii. Prefer to be at end of building.
 - iii. Should be adjacent to Materials Lab.
- e. Key Planning Issues:** The following issues should be considered in planning and design for Construction PE areas:
 - i. Lab / Storage:
 - Material lab should be organized by process for circulation purposes, with adequate space to accommodate training classes. Lab should be similar layout to the field testing labs.
 - Testing equipment storage needs to be secure.
 - Lab storage needed for nuclear gauges within a secured storage room with minimal distance of 15 feet from any person's workstation.
 - A filter and cleanout to prevent fine sediment from building up in all sink drains is needed. Provide sediment trap outside building with outfall to storm sewer.
 - Compressed air system is needed throughout all lab spaces.
 - Provide 36-inch-deep stainless steel counters with storage below around the walls of the Lab.
 - Provide an enclosed heated storage area for field supplies.
 - Provide exhaust hood for gas burners.

Section V—Space Needs Program

3. Maintenance Shops Program

B. Functional and Operational Characteristics

3) Trades Shop / Field Crew

- a. Function:** The function of the Trades Shop is to perform preventative maintenance, corrective maintenance, new construction, and remodels. In addition they are responsible for plumbing, electrical, masonry, HVAC, and more in a seven-county area spanning nearly 200 buildings. Occasionally they support other groups such as the Capitol Building in Olympia.
- b. Staffing:** The Trades Shop staff's hours of operation are 6:00 a.m. to 4:00 p.m. with a four-ten schedule. Two crew members work on Friday. Access is necessary 24/7 for emergency situations. The following table presents a list of the Trades Shop staff.

TRADES SHOP STAFF					
POSITION	<i>Existing 2005</i>	<i>Program 2010</i>	<i>Office*</i>	<i>Work Carrel</i>	<i>Locker</i>
Plant Manager 1	1	1	P		
Plant Manager 2	0	0	Admin		
Transportation Systems Tech B	2	2		X	X
Maintenance Specialist Transp.	4	4		X	X
General Repairer	1	0	In PA		
Trades Helper	1	1		X	X
Facilities Service Coordinator	0	0			
TOTAL	9	8			

* P: Private Office; S: Shared Office

- c. Vehicles:** The following table presents a list of the Trades Shop vehicle and equipment requirements. The scissor lift needs to be enclosed. Short term parking needs to be available in front of the shop. The remaining vehicles need not be adjacent.

TRADES SHOP VEHICLES					
VEHICLE	<i>Existing 2005</i>	<i>Program 2010</i>	<i>Exterior</i>	<i>Canopy Covered</i>	<i>Enclosed Heated</i>
Pick-Up Truck	1	2	X		
Van	7	8	X		
Bucket Truck	1	1	X		
Scissor Lift	1	1			X

Section V—Space Needs Program

3. Maintenance Shops Program

B. Functional and Operational Characteristics

Dump Truck	1	1	X		
Trailer	4	4	X		
TOTAL	15	17			

- d. **Affinities:** The following functional relationships should be provided in the planning of site and floor plans:
- Prefer to be at end of building for ease of future additions.
 - Operations are noisy.
- e. **Key Planning Issues:** The following issues should be considered in planning and design for the Trades Shop:
- Office Areas
 - Plant Manager should be provided with personal office with space for one to two people to meet.
 - Flat filing system for plans is needed. Should be adjacent to crew room.
 - Crew area should have workstations with personal filing cabinets and data ports for laptops/computers. In addition, it should have a large conference table to meet around and lay plans out.
 - A locker alcove for personal storage will be provided.
 - Shop / Storage
 - A versatile receiving/transition area for temporary storage for various projects should be centrally located with an overhead door.
 - A tool crib is needed for shop-owned tools.
 - Minimal inventory is required as items are purchased on an as-needed basis.
 - Enclosed unheated storage is needed for materials such as scaffolding, brick laying material, and landscape tools which are currently in temporary storage containers.
 - The Electrical Shop should be a clean area away from dust. It should be wired for all voltages and have an overhead door for forklift access. Storage racks should include bulk racks, bins, and spools on a reel rack.
 - Lock shop needs to be secure and kept from dust. It will have a workbench with a bench-mounted buffer/grinder, small bin storage, and a peg board.
 - Workshop should include a Carpentry Shop with a finished carpentry area for millwork and assembly lay down.
 - Metal Work is done in Bridge Shop. Space is needed for plumbing lay down and pipe threader. Duct work is mostly done by outside contractors.
 - Need overhead door access for large generators, bucket truck, and scissor lift.
 - A Paint Booth that all shops may access should be provided.

Section V—Space Needs Program

3. Maintenance Shops Program

B. Functional and Operational Characteristics

4) Signals

The Signals Department is made up of three different crews: Traffic Signal Operations, ITS Maintenance, and Traffic Signal Maintenance.

4A-Traffic Signal Operations:

- a. **Function:** The function of Traffic Signal Operations is to conduct field counts and traffic analysis for all signalized intersections within the region. In addition they conduct traffic signal simulations and computer models for interconnected corridors.
- b. **Staffing:** The Traffic Signal Operations staff hours of operation are 6:30 a.m. to 4:30 p.m. After-hour access is necessary for early and late shifts, and emergency situations. The following table presents a list of the Traffic Signal Operations staff.

Traffic Signal Operations Staff					
POSITION	<i>Existing 2005</i>	<i>Program 2010</i>	<i>Office*</i>	<i>Work Carrel</i>	<i>Locker</i>
Signal Operations Engineer	1	1	P		
Assistant Signal Operations Engineer	0	0			
Transportation Engineer 3	2	2		X	X
Transportation Planning Tech	2	2		X	X
Transportations Systems Tech	1	1		X	X
TOTAL	6	6			

* P: Private Office; S: Shared Office

- c. **Vehicles:** The following table presents a list of the Traffic Signal Operations vehicle and equipment requirements. Parking adjacency is not necessary.

Traffic Signal Operations Vehicles					
VEHICLE	<i>Existing 2005</i>	<i>Program 2010</i>	<i>Exterior</i>	<i>Canopy Covered</i>	<i>Enclosed Heated</i>
Mini-Van	3	5	X		
TOTAL	3	5			

Section V—Space Needs Program

3. Maintenance Shops Program

B. Functional and Operational Characteristics

4B-ITS Maintenance:

- a. **Function:** The function of ITS Maintenance is to maintain, repair, and install ITS systems throughout the Olympic region. They also repair and test cabinets in addition to other electronic bench work.
- b. **Staffing:** The ITS Maintenance staff hours of operation are 7:30 a.m. to 4:00 p.m. After-hour access is necessary for early and late shifts, and emergency situations. The following table presents a list of the ITS Maintenance staff.

ITS MAINTENANCE STAFF					
POSITION	<i>Existing 2005</i>	<i>Program 2010</i>	<i>Office*</i>	<i>Work Carrel</i>	<i>Locker</i>
ITS Supervisor	1	1	P		
Transportation Systems Tech	4	6		W	W
TOTAL	5	7			

* P: Private Office; S: Shared Office

- c. **Vehicles:** The following table presents a list of the ITS Maintenance vehicle and equipment requirements. The pick-up trucks and the cargo van do not need to be covered.

ITS Maintenance Vehicles					
VEHICLE	<i>Existing 2005</i>	<i>Program 2010</i>	<i>Exterior</i>	<i>Canopy Covered</i>	<i>Enclosed Heated</i>
Pick-Up Truck	1	1	X		
Cargo Van	2	2	X		
Man Lift (7C4) 1 Man Crew	0	1		X	
Man Lift (7C3) 2 Man Crew	1	1		X	
Portable H.A.R. Unit	6	8		X	
Portable H.A.R. Sign	6	8		X	
TOTAL	16	21			

Section V—Space Needs Program

3. Maintenance Shops Program

B. Functional and Operational Characteristics

4C-Traffic Signal Maintenance:

- a. **Function:** The function of Traffic Signal Maintenance is to maintain, repair, and install Traffic Signals, beacons, highway lighting, and other highway-related electrical systems throughout the Olympic region. They also conduct electrical inspections for all ongoing projects throughout the region.
- b. **Staffing:** The Traffic Signal Maintenance staff hours of operation are 7 am to 4 pm. After-hour access is necessary for early and late shifts, and emergency situations. The following table presents a list of the Traffic Signal Maintenance staff.

Traffic Signal Maintenance Staff					
POSITION	<i>Existing 2005</i>	<i>Program 2010</i>	<i>Office*</i>	<i>Work Carrel</i>	<i>Locker</i>
Signal Superintendent	1	1	P		
Assistant Signal Superintendent	0	1	P		
Signal Supervisor	1	1	P		
Electrical Inspectors	2	3		X	X
Transportation Systems Tech	11	11		X	X
Stores Clerk (Signals Only)	0	0			
Senior Secretary	0	0			
TOTAL	15	17			

* P: Private Office; S: Shared Office

- c. **Vehicles:** The following table presents a list of the Traffic Signal Maintenance vehicle and equipment requirements. The pick-up trucks, vans, air compressor, and generator do not need to be covered.

Section V—Space Needs Program

3. Maintenance Shops Program

B. Functional and Operational Characteristics

Traffic Signal Maintenance Vehicles					
VEHICLE	<i>Existing 2005</i>	<i>Program 2010</i>	<i>Exterior</i>	<i>Canopy Covered</i>	<i>Enclosed Heated</i>
Sedan	1	1	X		
Pick-Up Truck	2	3	X		
Man Lift (7C3)	5	6		X	
Man Lift (7C4)	1	1		X	
Cargo Van	2	2	X		
Mini Van	2	3	X		
Ditchwitch/Trencher	1	1		X	
Work Zone Truck	1	2		X	
Loop Cutting Truck	1	1		X	
Air Compressor	1	1	X		
Generator	1	1	X		
Portable Traffic Signals	2	2		X	
TOTAL	20	24			

4-Signals Shop (Over-all):

- a. **Affinities for Signals Shop:** The following functional relationships should be provided in the planning of site and floor plans:
 - i. None
- b. **Key Planning Issues for Signals Shop:** The following issues should be considered in planning and design for the Signals Shop:
 - i. Office Areas
 - A private office is needed for Signal Operations Engineer, I.T.S. Supervisor, Signal Superintendent, Assistant Signal Superintendent, and Signal Supervisor.
 - An open area that serves as a crew meeting space should be provided within the workstation area. It should have wall space for maps and white boards, and a layout table.
 - A dedicated room or space is needed for the lab-volt training center. This could be located next to the crew room.
 - ii. Shop / Storage
 - A Test Shop/Storage is needed for both Signal Maintenance and I.T.S. Maintenance. There should be storage for long lead time components and overhead door access.
 - A storage bay is needed for signs, cabinets, and hardware.
 - Exterior lay down space for pole storage is provided by Central Stores.

Section V—Space Needs Program

3. Maintenance Shops Program

B. Functional and Operational Characteristics

5) Sign Shop

- a. **Function:** The function of the Sign Shop is to install and maintain large signs.
- b. **Staffing:** The hours of operation for the Sign Shop staff are 6 am to 4:30 pm. After-hours access is necessary for occasional night shifts or long shifts. The following table presents a list of the Sign Shop staff. The Maintenance Supervisor listed is also the supervisor for the Striping Shop, Plastics Shop, and Button Shop.

SIGN SHOP STAFF					
POSITION	<i>Existing 2005</i>	<i>Program 2010</i>	<i>Office*</i>	<i>Work Carrel</i>	<i>Locker</i>
Maintenance Supervisor	1	1	P		
Lead Tech (Sign Installer 2)	1	1	S		X
Sign Installer 1	2	3		X	X
TOTAL	4	5			

* P: Private Office; S: Shared Office

- c. **Vehicles:** The following table presents a list of the Sign Shop vehicle and equipment requirements. The Digger-Derrick and Manlift Trucks will both need to be under a canopy. The remaining vehicles only need be parked on the site.

Sign Shop Vehicles					
VEHICLE	<i>Existing 2005</i>	<i>Program 2010</i>	<i>Exterior</i>	<i>Canopy Covered</i>	<i>Enclosed Heated</i>
Digger-Derrick	1	1		X	
Manlift Truck	1	1		X	
Pole Trailer	1	1	X		
Attenuator Truck	0	1	X		
Pick-Up Truck	1	1	X		
TOTAL	4	5			

- d. **Affinities:** The following functional relationships should be provided in the planning of site and floor plans:
 - i. Sign Shop should be located near Striping Shop, Thermo Plastics Shop, and Buttons Shop.

Section V—Space Needs Program

3. Maintenance Shops Program

B. Functional and Operational Characteristics

- ii. Shop should be near respective offices.
- e. **Key Planning Issues:** The following issues should be considered in planning and design for the Sign Shop:
 - i. Office Areas
 - The Maintenance Supervisor for Striping, Thermo Plastics, Button, and Sign Crew and shall have access to all crew areas.
 - The Maintenance Supervisor will need space for a desk, files, shelves, and room to meet with all Lead Techs.
 - Lead Tech's office shall be combined with the crew room and have room to accommodate daily crew meetings. It shall have a desk, files, shelves, a meeting table, and work carrels equipped with data jacks for computers/laptops.
 - ii. Common Areas
 - Storage space is needed for work zone equipment since Work Zone Safety Crew may not be providing this in the future. This space will be shared between Signs, Thermo Plastics, Buttons, and Striping.
 - For large crew meetings between the Signs, Thermo Plastics, Buttons, and Striping Crews, the large conference room in the core area will be utilized.
 - iii. Shop / Storage
 - The Sign assembly Shop should be equipped with compressed air, heat, one ton overhead hoist, overhead door, and 208 VAC electricity.
 - Exterior storage should be provided for small signs, large signs, posts, and sign panels with room for truck maneuvering. The small signs and sign panels need to be under cover.
 - A locker alcove for personal storage will be provided.
 - Assembly area and tools on trucks need to be secure.

6) Button Shop

- a. **Function:** The function of the Button Shop is to install and maintain raised pavement markers (RPMs).
- b. **Staffing:** The hours of operation for the Button Shop staff are 6 am to 4:30 pm. After-hours access is necessary for night shifts. The following table presents a list of the Button Shop staff and field crew.

Section V—Space Needs Program

3. Maintenance Shops Program

B. Functional and Operational Characteristics

BUTTON SHOP STAFF					
POSITION	<i>Existing 2005</i>	<i>Program 2010</i>	<i>Office*</i>	<i>Work Carrel</i>	<i>Locker</i>
Lead Tech	1	1	S		X
Maintenance Tech.	7	8		X	X
TOTAL	8	9			

* P: Private Office; S: Shared Office

- c. **Vehicles:** The following table presents a list of the Button Shop vehicle requirements. These vehicles will need to be parked on the site. The Button Truck and Recess Grinder need to be covered.

Button Shop Vehicles					
VEHICLE	<i>Existing 2005</i>	<i>Program 2010</i>	<i>Exterior</i>	<i>Canopy Covered</i>	<i>Enclosed Heated</i>
Button Truck	1	1		X	
Pick-Up Trucks & Vans	3	4	X		
Attenuator Truck	3	3	X		
Recess Grinder w/ Trailer	1	1		x	
TOTAL	8	9			

- d. **Affinities:** The following functional relationships should be provided in the planning of site and floor plans:
- Button Shop should be located near Sign Shop, Striping Shop, and Thermo Plastics Shop.
 - Shop should be near respective offices.
- e. **Key Planning Issues:** The following issues should be considered in planning and design for the Button Shop:
- Office Areas
 - Lead Tech's office shall be combined with the crew room and have room to accommodate daily crew meetings. It shall have a desk, files, shelves, a meeting table, and work carrels equipped with data jacks for computers/laptops.
 - About three-fourths of Maintenance Techs are seasonal workers.
 - Common Areas
 - Storage space is needed for work zone equipment since Work Zone Safety Crew may not be providing this in the future. This

Section V—Space Needs Program

3. Maintenance Shops Program

B. Functional and Operational Characteristics

space will be shared between Signs, Thermo Plastics, Buttons, and Striping.

- For large crew meetings between the Signs, Thermo Plastics, Buttons, and Striping Crews, the large conference room in the core area will be utilized.
- iii. Shop / Storage
 - A heated workshop with space to maintain equipment and powered with 208 VAC is needed.
 - Storage is needed for button and tar storage with no South or West openings. This space should be large enough to stock pallets prior to large projects. Heavy duty pallet racks are needed.
 - A locker alcove for personal storage will be provided.
 - All storage must be secure.

7) Thermo Plastics Shop

- a. **Function:** The function of the Plastics Shop is to install and maintain plastic pavement markings (transverse markings and symbols). Additionally, they are responsible for striping and channelization changes.
- b. **Staffing:** The hours of operation for The Plastics Shop staff are 6 am to 4:30 pm. After-hours access is necessary for night shifts. The following table presents a list of the Plastics Shop staff.

Thermo Plastics Shop Staff					
POSITION	<i>Existing 2005</i>	<i>Program 2010</i>	<i>Office*</i>	<i>Work Carrel</i>	<i>Locker</i>
Lead Tech	1	1	S		X
Maintenance Tech.	3	4		X	X
TOTAL	4	5			

* P: Private Office; S: Shared Office

- c. **Vehicles:** The following table presents a list of the Plastics Shop vehicles and equipment requirements. Except for the utility trailer and the attenuator trucks, these vehicles will need to be parked on site and under a canopy to protect them from the outside elements. The small stripers should be stored in an enclosed area.

Section V—Space Needs Program

3. Maintenance Shops Program

B. Functional and Operational Characteristics

Thermo Plastics Shop Vehicles					
VEHICLE	<i>Existing 2005</i>	<i>Program 2010</i>	<i>Exterior</i>	<i>Canopy Covered</i>	<i>Enclosed Heated</i>
Thermoplastic Truck	1	1		X	
Methyl Truck	1	1		X	
Support Truck	1	1		X	
Grinder w/ Trailer	1	1		X	
Utility Trailer	1	1	X		
Attenuator Truck	0	1	X		
Small Stripers	2	2			X
Small Grinders	3	3		X	
TOTAL	10	11			

- d. **Affinities:** The following functional relationships should be provided in the planning of site and floor plans:
- Thermo Plastics Shop should be located near Sign Shop, Striping Shop, and Button Shop.
 - Shop should be near respective offices.
- e. **Key Planning Issues:** The following issues should be considered in planning and design for the Thermo Plastics Shop:
- Office Areas
 - Lead Tech's office shall be combined with the crew room and have room to accommodate daily crew meetings. It shall have a desk, files, shelves, a meeting table, and work carrels equipped with data jacks for computers/laptops.
 - Common Areas
 - Storage space is needed for work zone equipment since Work Zone Safety Crew may not be providing this in the future. This space will be shared between Signs, Thermo Plastics, Buttons, and Striping.
 - For large crew meetings between the Signs, Thermo Plastics, Button, and Striping Crews, the large conference room in the core area will be utilized.
 - Shop / Storage
 - Thermo Plastics shall have their own workshop with space to maintain equipment.
 - Enclosed storage needed for thermoplastic, methyl methacrylate, beads (heavy duty racks), and flammable liquids.
 - All storage must be secure.
 - A locker alcove for personal storage will be provided.

Section V—Space Needs Program

3. Maintenance Shops Program

B. Functional and Operational Characteristics

8) Striping Shop

- a. **Function:** The function of the Striping Shop is to layout all highway striping.
- b. **Staffing:** The hours of operation for the Striping Shop staff are 6:30 am to 5 pm. After hours access is necessary for night shifts. The following table presents a list of the Striping Shop staff.

STRIPING SHOP STAFF					
POSITION	<i>Existing 2005</i>	<i>Program 2010</i>	<i>Office*</i>	<i>Work Carrel</i>	<i>Locker</i>
Lead Tech.	1	1	S		X
Maintenance Tech.	8	8		X	X
TOTAL	9	9			

* P: Private Office; S: Shared Office

- c. **Vehicles:** The following table presents a list of the Striping Shop vehicle and equipment requirements. The Striper Truck will need to be enclosed. The remaining vehicles only need be parked on the site.

Striping Shop Vehicles					
VEHICLE	<i>Existing 2005</i>	<i>Program 2010</i>	<i>Exterior</i>	<i>Canopy Covered</i>	<i>Enclosed Heated</i>
Striper Truck	1	1			X
Support Truck (Materials)	1	1	X		
Cone Truck	1	1	X		
Attenuator Truck	0	1	X		
Buffer Truck	1	1	X		
Lead Tech Pick-Up Truck	1	1	X		
Fork Lift	1	1	x		
TOTAL	6	7			

- d. **Affinities:** The following functional relationships should be provided in the planning of site and floor plans:
 - i. Striping Shop should be located near Sign Shop, Plastics Shop, and Button Shop.
 - ii. The striping crews shop space should be near/adjacent the striping heated storage.

Section V—Space Needs Program

3. Maintenance Shops Program

B. Functional and Operational Characteristics

- iii. Shop should be near respective offices.
- e. **Key Planning Issues:** The following issues should be considered in planning and design for the Striping Shop:
 - i. Office Areas
 - Lead Tech's office shall have a desk, files, shelves and room to meet with two people.
 - A crew room with a meeting table is needed with work carrels equipped with data jacks for computers/laptops.
 - ii. Common Areas
 - Storage space is needed for work zone equipment since Work Zone Safety Crew may not be providing this in the future. This space will be shared between Signs, Thermo Plastics, Buttons, and Striping.
 - For large crew meetings between the Signs, Thermo Plastics, Buttons, and Striping Crews, the large conference room in the core area will be utilized.
 - iii. Shop / Storage
 - A heated workshop is needed to support two crews.
 - Parts and supplies should be located adjacent to workshop and be equipped with a workbench.
 - Bead storage should have 14-foot clearance with forklift access. Provide heavy duty racks for bead storage.
 - Paint needs to be stored outside and have spill containment.
 - All storage must be secure.
 - A locker alcove for personal storage will be provided.
 - iv. Exterior Areas
 - Loading area needs to have spill containment, be drive through, and adjacent to paint storage.
 - Paint wash-down area needs to have sewer and separator.

9) Work Zone Safety

- a. **Function:** The function of the Work Zone Safety (WZS) crew is to provide traffic control for other crews to work on the roadways. They employ several methods of traffic control including flagging, complex multi-lane closures, and emergency event control.
- b. **Staffing:** The Work Zone Safety operation is always open. Multiple crews are run with day shifts, night shifts, and weekend shifts. Work Zone Safety is seasonal work with less staff needed during the winter season. The following table presents a list of the WZS Shop staff.

Section V—Space Needs Program

3. Maintenance Shops Program

B. Functional and Operational Characteristics

WORK ZONE SAFETY STAFF					
POSITION	<i>Existing 2005</i>	<i>Program 2010</i>	<i>Office*</i>	<i>Work Carrel</i>	<i>Locker</i>
Supervisor	1	1	P		
Lead Tech. (Field Supervisor)	2	2	S		X
Maintenance Tech. II	2	3		X	X
Maintenance Tech. I	8	8		X	X
Maintenance Laborers	2	2		X	X
TOTAL	15	16			

* P: Private Office; S: Shared Office

- c. **Vehicles:** The following table presents a list of the Work Zone Safety vehicle and equipment requirements. The TMA trucks need to be parked in covered parking to protect plastics from UV and weather.

Work Zone Safety Vehicles					
VEHICLE	<i>Existing 2005</i>	<i>Program 2010</i>	<i>Exterior</i>	<i>Canopy Covered</i>	<i>Enclosed Heated</i>
TMA Trucks	2	3		X	
Pick-Up Trucks	4	5	X		
PCMS Trailers	3	4	X		
Remote Control Flagman Trailers	2	2	X		
Arrow board Trailer	1	1	X		
TOTAL	12	15			

- d. **Affinities:** The following functional relationships should be provided in the planning of site and floor plans:
- Very mobile group with no specific adjacencies.
 - Need separate storage due to emergency hours.
- e. **Key Planning Issues:** The following issues should be considered in planning and design for WZS:
- Office Areas
 - Supervisor will need space for a desk, files, shelves, and room to meet with Lead Techs. Office should be near crew room.
 - Lead Tech's offices can be shared and should be adjacent to crew room.

Section V—Space Needs Program

3. Maintenance Shops Program

B. Functional and Operational Characteristics

- Crew Room with a large meeting table, filing cabinets, work carrels with outlets and data jacks for computers / laptops / PDAs, and a TV / DVD / VCR for training.
 - Crew room can be located upstairs.
 - A locker alcove for personal storage will be provided.
- ii. Shop / Storage
- Radios and PDA's should be stored and secured in crew room on shelves with multiple outlets.
 - Safety gear can be stored in personal lockers.
 - 24/7 access to storage required for emergencies.
 - Light stands, hand tools, office supplies, surplus vests, hardhats, etc. need to be enclosed and secure.
 - Flares and suitcase generators are to be well secured and stored in the Hazardous Materials container on site.
 - Signs, cones, sign stands, drums and other assorted traffic control devices need to be covered for UV protection. Does not need to be adjacent to crew room.
 - A workshop with a work-bench is needed for sign and small equipment repair.

10) TEF Radio

- a. **Function:** The function of the TEF Radio Shop is to design, install and maintain wireless communication systems and ITS systems; repair and troubleshoot electronic equipment; maintain electronic equipment on large state trucks; and stage large systems for telecommunications sites.
- b. **Staffing:** The TEF Radio Shop staff hours of operation are 8:00 a.m. to 5:00 p.m., Monday through Friday. After-hours access is required for emergency situations. The following table presents a list of the TEF Radio Shop staff.

TEF RADIO SHOP STAFF					
POSITION	<i>Existing 2005</i>	<i>Program 2010</i>	<i>Office*</i>	<i>Work Carrel</i>	<i>Locker</i>
Senior Telecom Specialist	1	1		X	X
ECST/Field	0	1		X	X
Transportation Systems Technician B	1	1		X	X
TOTAL	2	3			

* P: Private Office; S: Shared Office

Section V—Space Needs Program

3. Maintenance Shops Program

B. Functional and Operational Characteristics

- c. **Vehicles:** The following table presents a list of the TEF Radio Shop vehicle and equipment requirements. The snow vehicle needs to be covered. The remaining vehicles need to be parked adjacent to the shop.

TEF Radio Shop Vehicles					
VEHICLE	<i>Existing 2005</i>	<i>Program 2010</i>	<i>Exterior</i>	<i>Canopy Covered</i>	<i>Enclosed Heated</i>
F-450 w/ Custom Box	1	1	X		
SUV or F-450 w/ Custom Box	0	1	X		
Snow Vehicle	1	1			X
TOTAL	2	3			

- d. **Affinities:** The following functional relationships should be provided in the planning of site and floor plans:
- TEF Equipment Shop to share bay space.
- e. **Key Planning Issues:** The following issues should be considered in planning and design for the TEF Radio Shop:
- Office Areas
 - Senior Telecom Specialist needs a workstation with a computer, and a workbench with multiple outlets and data ports.
 - Should have room for large bookshelves and filing cabinets.
 - A locker alcove for personal storage will be provided.
 - Shop / Storage
 - Provide secure storage for expensive and desirable equipment and components.
 - The Repair Bay / Screen Room / Workshop should be climate controlled, have an exhaust system for soldering, test antenna conduits to the roof, and two to three 12-foot by 36-inch electronic work-benches with data ports and multiple outlets.
 - Should be large enough to handle largest DOT vehicles.
 - Shelves and cabinets should be a minimum of 24 inches deep and on all walls.
 - Provide a utility sink, compressed air and extension cord reels.

11) Bridge Shop

- a. **Function:** The function of the Bridge Shop is to perform repairs to concrete, wood, and steel structures that carry traffic on or over state highways.

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3. Maintenance Shops Program

B. Functional and Operational Characteristics

- b. **Staffing:** The Bridge Shop staff hours of operation are 6:30 a.m. to 4:30 p.m. Access is necessary 24/7 for emergency situations. Night shifts may be added. The following table presents a list of the Bridge Shop staff.

BRIDGE SHOP STAFF					
POSITION	<i>Existing 2005</i>	<i>Program 2010</i>	<i>Office*</i>	<i>Work Carrel</i>	<i>Locker</i>
Supervisor	1	1	P		
Lead Tech.	2	2	S		X
Maintenance Tech. II	7	10		X	X
TOTAL	10	13			

* P: Private Office; S: Shared Office

- c. **Vehicles:** The following table presents a list of the Bridge Shop vehicle and equipment requirements. All vehicles should use exterior parking.

Bridge Shop Vehicles					
VEHICLE	<i>Existing 2005</i>	<i>Program 2010</i>	<i>Exterior</i>	<i>Canopy Covered</i>	<i>Enclosed Heated</i>
3/4-Ton Pick-Up 5c37; 4c14	2	3	X		
1-Ton Pick-Up w/ Service Body and Crane Arm 4c30	2	3	X		
LP 4700 Tool Truck 8c52	2	2	X		
Truck Mounted 12-Ton Boom 8c53	1	1	X		
Trailer Mounted Light Tower	1	2	X		
Solar Arrow Board Trailer	1	2	X		
Hydra Lift Platform Trailer	1	1	X		
Truck Mounted Impact Attenuator	1	2	X		
Hydro Blaster Trailer	1	1	X		
Work Boat on Trailer	1	1		X	
TOTAL	13	18			

- d. **Affinities:** The following functional relationships should be provided in the planning of site and floor plans:
- An adjacency to TEF Maintenance Welding / Fabrication Bays is needed to share equipment such as plasma cutter and other welding equipment.

Section V—Space Needs Program

3. Maintenance Shops Program

B. Functional and Operational Characteristics

- ii. The Buttons Shop and Trades Shop should have access to the Welding Shop for metal work.
 - iii. The Bridge Shop needs to be adjacent to Trades Shop's Carpentry Shop.
 - iv. Welding / Steel Shop needs room to maneuver large sections of bridge for repair.
 - v. Large exterior storage does not need to be adjacent.
 - vi. Consideration should be taken for the location of the Bridge Shop due to noise and odors.
- e. **Key Planning Issues:** The following issues should be considered in planning and design for the Bridge Shop:
- i. Office Areas
 - Supervisor will need a private office with a desk, files, shelves, and room to meet with Lead Techs. Office should be near shop.
 - Lead Techs will share an office adjacent to shop.
 - Crew Room should have individual work carrels and shared computer access.
 - A locker alcove for personal storage will be provided.
 - ii. Shop
 - The Carpenter Shop shall be enclosed, heated, and well ventilated with room for various floor and bench mounted tools, work benches, and tool storage. A central dust collection system will be installed.
 - Covered and heated storage area for bolts and nails in bins, and concrete and asphalt patch material on pallet racks will be provided.
 - The Welding/Steel Fabrication Shop shall be heated, enclosed and well ventilated. It should have fabrication benches, a five ton overhead crane, cabinets for tool and material storage, and racks for steel components.
 - A Steel Prep Room for painting and sandblasting should be adjacent to Welding/Steel Fabrication Shop.
 - Hazardous material storage is needed for paint, thinners, and epoxies.
 - iii. Storage
 - Secured exterior space is needed for storage of large items and W-beams up to 80 feet long.
 - Timber, rail, and bridge components storage do not need to be adjacent to shop.

12) Central Stores

- a. **Function:** The function of Central Stores is to maintain and manage the department's consumable inventory and surplus property. A 1.8 million

Section V—Space Needs Program

3. Maintenance Shops Program

B. Functional and Operational Characteristics

dollar inventory is maintained here. It is comprised of multiple types of highway-related material. In addition, they manage inventory control points calling it “Decentralized purchasing with centralized control.” Many deliveries for other departments are made here as well. These deliveries then need to be distributed throughout the site.

- b. Staffing:** The Central Stores staff hours of operation are 6:30 a.m. to 5:00 p.m., Monday through Friday. No receiving after 4:00 p.m. After-hours access is minimal for emergency situations. The following table presents a list of the Central Stores staff.

CENTRAL STORES STAFF					
POSITION	<i>Existing 2005</i>	<i>Program 2010</i>	<i>Office*</i>	<i>Work Carrel</i>	<i>Locker</i>
Purchasing Manager	1	1	P		
Supply Officer I	1	1		X	X
Supply Control Tech	1	1		X	X
Supply Control Tech (warehouse)	1	1		X	X
TOTAL	4	4			

* P: Private Office; S: Shared Office

- c. Vehicles:** The following table presents a list of the Central Stores vehicle and equipment requirements. The Forklift can be stored in the Warehouse.

Central Stores Vehicles					
VEHICLE	<i>Existing 2005</i>	<i>Program 2010</i>	<i>Exterior</i>	<i>Canopy Covered</i>	<i>Enclosed Heated</i>
Ford Ranger Pick-up	1	1	X		
Forklift	1	1	X		
Electric Pallet Jack	1	1	X		
TOTAL	3	3			

- d. Affinities:** The following functional relationships should be provided in the planning of site and floor plans:
- Should be centrally located for pick up, delivery, and distribution of received shipments.
 - Security is important.
- e. Key Planning Issues:** The following issues should be considered in planning and design for the Central Stores:

Section V—Space Needs Program

3. Maintenance Shops Program

B. Functional and Operational Characteristics

- i. Office Areas
 - Private office is needed for the Purchasing Manager.
 - Workstations with desk and computer should be provided for Supply Officer and Supply Control Techs and should be within view of customer counter. One Supply Control Tech is located in the warehouse.
 - Offices shall be located adjacent to inventory warehouse.
- ii. Warehouse
 - Security and the ability to monitor who is coming and going are important.
 - Centralized pallet storage is needed.
 - Warehouse carries mostly contract items and long lead items.
 - Most deliveries are made to Central Stores then distributed to other departments.
 - A Remstar Unit should be provided for small fast moving inventory.
- iii. Storage
 - Yard storage adjacent to warehouse is needed for paint, mast arms, and lumber. Arm racks will be utilized for lumber and other long items. This area will need forklift access with consideration for maneuverability of long items.
 - An exterior, secured area is needed to store poles for the Signal department. This area does not need to be adjacent to Central Stores.

13) TEF Equipment Maintenance

- a. **Function:** The function of TEF Maintenance is to maintain and repair all TEF-owned equipment, prepare new vehicles for service, install warning lights, and any fabrication needed.
- b. **Staffing:** The TEF Maintenance staff hours of operation are 7 am to 4 pm. After-hours access is necessary for off-hour equipment repair. The following table presents a list of TEF Maintenance staff.

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3. Maintenance Shops Program

B. Functional and Operational Characteristics

TEF MAINTENANCE STAFF					
POSITION	<i>Existing 2005</i>	<i>Program 2010</i>	<i>Office*</i>	<i>Work Carrel</i>	<i>Locker</i>
WMS Band 2	1	1	P		
Financial Analyst	1	1	S		X
Office Assistant	1	1	S		X
Equipment Analyst	1	1	P		
Equipment Shop Supervisor	1	2	P		
Customer Service Writer	1	1		X	X
Mechanic I	7	12		X	X
Mechanic II	1	3		X	X
Equipment Shop Assistant	3	4		X	X
Equipment Parts Specialist I	1	1	S		X
Equipment Parts Specialist II	1	1	S		X
TOTAL	19	28			

* P: Private Office; S: Shared Office

- c. **Vehicles:** The following table presents a list of the TEF Maintenance vehicle and equipment requirements on site.

TEF Maintenance Vehicles – On Site					
VEHICLE	<i>Existing 2005</i>	<i>Program 2010</i>	<i>Exterior</i>	<i>Canopy Covered</i>	<i>Enclosed Heated</i>
Pick-Up Truck	1	1	X		
Sedan or Van	2	2	X		
Grove Crane	1	1			X
Fork Lift	1	1	X		
TOTAL	5	5			

The following table presents a list of the TEF Maintenance vehicles and equipment that are maintained with projections to 2010.

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3. Maintenance Shops Program

B. Functional and Operational Characteristics

TEF Maintenance Vehicles – Maintained		
VEHICLE	<i>Existing 2005</i>	<i>Program 2010</i>
Light Vehicle Equipment	476	506
Pick-Up and 1 Ton Trucks	256	286
Heavy Trucks	359	361
Trailers	37	39
Graders	2	2
Loaders	10	10
Tractors	13	13
Sweepers	3	4
Fuel Sites	10	10
Drill Rig (Crawler)	2	2
Skid Drills	7	7
TOTAL	1,175	1,240

- d. **Affinities:** The following functional relationships should be provided in the planning of site and floor plans:
- Heavy vehicle traffic to and from shop should be kept from the rest of the campus.
 - Shop is very noisy with many odors being produced that should be kept from neighboring offices/shops.
 - Would prefer to be in separate building.
 - Security and safety are important.
- e. **Key Planning Issues:** The following issues should be considered in planning and design for TEF Maintenance:
- Office Areas
 - The Equipment Shop Supervisor, WMS Band 2, and Equipment Analyst need private offices.
 - The Office Assistant and Financial Analyst can share an office.
 - The Reference/Manual Library should have two workstations and bookshelves.
 - Superintendent and Customer Service Specialist do not need to be located near the shop.
 - Customer and visitor traffic should be limited to office areas and separated from shop for safety reasons.
 - Shop noise and odors should be separated from office areas.
 - A locker alcove for personal storage will be provided.
 - Repair Bays

Section V—Space Needs Program

3. Maintenance Shops Program

B. Functional and Operational Characteristics

- Heavy Duty Bays with 16-foot-wide by 16-foot-high doors are needed for equipment more than one ton.
- Heavy truck and light vehicle bays should be separate. Bays need clearance for boom trucks, 12-foot-wide plow blades, and 75-foot-long (possibly) bridge trucks.
- An overhead five-ton bridge crane is needed for the bay areas.
- ii. Shop / Storage
 - The Welding Shop should be adjacent to the steel storage, with access to the Welding/Fabrication Bay, and Fabrication Area.
 - Welding bay should be separate from other bays for safety reasons.
 - TEF Bays and Welding Shop should have a five-ton overhead bridge crane.
 - Portable equipment storage, common work area, and tool box storage should be strategically located within the bay areas.
- iii. Parts Room
 - The Equipment Parts Specialist 1 and 2 can share an office located in Parts Room.
 - An issue counter for the distribution of parts should be located adjacent to the Parts Specialist's office.
 - The main parts room for small, fast-moving parts should be equipped with a Remstar Unit, shelving units, and bolt bins. This area should have access to the issue counter.
 - The Tool Room should be secured and accessible only by Parts Specialist.
 - A receiving area with an overhead door into the Warehouse / Parts Room should have access to the loading dock shared with Central Stores.
 - A room for lubricating fluids and an air compressor should have double door exterior access. This room should be soundproof.
- iv. Exterior Areas
 - Scrap metal bins should be located adjacent to shop.
 - A secured area for steel / aluminum bins should be provided.
 - A ready/down line should be provided for both heavy duty and light duty vehicles adjacent to their respective bays.
 - Provide a fuel island to fuel a minimum of four trucks simultaneously.

14) Core Spaces

Section V—Space Needs Program

3. Maintenance Shops Program

B. Functional and Operational Characteristics

- a. Training Room:** A Training Room for up to 80 people should be accessible by all departments. Separate Audio/Video and Equipment Storage and Table and Chair Storage should be adjacent to training room.
- b. Large Conference Room:** A large conference room for up to 25 people should be accessible by all departments.
- c. Break Room:** A Break Room with an adjacent kitchenette should be provided for all employees.
- d. Wet Locker:** A Wet Locker Area with proper floor drainage is needed. These lockers will be for rain jackets and other outdoor gear.

Section V—Space Needs Program

3. Maintenance Shops Program

C. Space Needs

D. Space Needs:

1) Summary of Needs:

On the following pages is a summary of the Maintenance Shops Facility's Space Needs developed by the consultant MDG (Maintenance Design Group). More detailed information is available in the full MDG Report found in attachment Section VII—2.B.

- a. Note: The data in this RFP are more current than the original MDG Program report; in case of conflict, use the data in the RFP.*

Section V—Space Needs Program
 3. Maintenance Shops Program
 C. Space Needs
 1. Summary of Shops Space Needs

Olympic Region Headquarters Complex
 Preliminary Design Report

Olympic Region HQ Facility Space Needs Program Summary		
	<i>Square Footage</i>	<i>2/2/2006</i>
	Program 2010	<i>Notes</i>

Building Areas		
Office/Crew Areas		
Materials Lab	1,250	
Trades	360	
Signals	2,440	
Signs	310	
Buttons	520	
Thermo Plastics	340	
Striping	520	
Work Zone Safety	590	
TEF Radio	180	
Bridge Maintenance	780	
Central Stores	510	
TEF Equipment Maintenance	1,250	
Core Areas	4,896	
Subtotal	13,946	
Shop Spaces		
Materials Lab	4,220	
Construction PE	600	
Trades	3,080	
Signals	3,670	
Signs	1,000	
Buttons	300	
Thermo Plastics	300	
Striping	600	
Data Collection	300	
Work Zone Safety	250	
TEF Radio	1,200	
Bridge Maintenance	3,900	
TEF Equipment Maintenance	16,880	
Subtotal	36,300	

Continued on next page

Section V—Space Needs Program
3. Maintenance Shops Program
C. Space Needs
1. Summary of Shops Space Needs

Building Areas Continued		
<i>Enclosed Heated</i>		
Trades	0	
Buttons	0	
Thermo Plastics	0	
Striping	480	
Central Stores	5,000	Warehouse
<i>Subtotal</i>	<i>5,480</i>	
<i>Enclosed Unheated Storage</i>		
Construction PE	600	
Trades	900	
Signals	1,200	
Thermo Plastics	750	
Striping	0	
TEF Radio	0	
Central Stores	0	
TEF Equipment		
Maintenance	300	
<i>Subtotal</i>	<i>3,750</i>	
Subtotal: Building Areas	59,476	
<i>Circulation Factor</i>	<i>11,684</i>	
Total: Building Areas	71,160	←Charrette

Covered Areas		
<i>Covered Storage</i>		
Signs	270	
Buttons	480	
Striping	700	
Work Zone Safety	200	
Central Stores	2,000	
<i>Fuel & Wash Areas</i>		
Fuel/Wash Areas	3,000	
Total: Covered Storage	6,350	

Section V—Space Needs Program
3. Maintenance Shops Program
C. Space Needs
1. Summary of Shops Space Needs

Exterior Yard Areas		
<i>Exterior Storage</i>		
Materials Lab	200	
Signs	3,750	
Work Zone Safety	80	
TEF Radio	1,020	
Central Stores	85,300	
TEF Equipment Maintenance	400	
Fuel/Wash Areas	1,800	
<i>Total: Exterior Yard Areas</i>	90,750	

Parking Areas		
<i>Covered Parking</i>		
Materials Lab	480	
Signals	6,860	
Buttons	400	
Thermo Plastics	800	
Striping	300	
TEF Equipment Maintenance	480	
<i>Subtotal</i>	9,320	
<i>100% Circulation</i>	9,320	
<i>Exterior WSDOT Parking</i>		
Materials Lab	1,400	
Construction PE	7,000	
Trades	4,680	
Signals	5,560	
Signs	1,400	
Buttons	1,880	
Thermo Plastics	560	
Striping	1,120	
Work Zone Safety	3,720	
TEF Radio	1,080	
Bridge Maintenance	4,840	
Central Stores	200	
TEF Equipment Maintenance	8,200	
State Light Vehicles	0	
Heavy Vehicles and Equipment	0	
<i>Subtotal</i>	41,640	
<i>100% Circulation</i>	41,640	
Total: Parking Areas	101,920	

Section V—Space Needs Program
3. Maintenance Shops Program
C. Space Needs
1. Summary of Shops Space Needs

Employee/Visitor Parking Areas		
<i>Employee/Visitor/Accessible</i>		
Shop Employee Parking	21,384	
Carpool Parking	810	
Motorcycle Parking	150	
Visitor Parking	590	
Accessible Parking	852	
Bike Parking	200	
<i>Subtotal</i>	23,985	
100% Circulation	23,985	
Total: Emp/Vis Parking Areas	47,971	

Total Areas		
Total Building and Site Areas	315,451	
Site Circulation/Setbacks/Water Detention 75%	236,588	
Total Site Requirements	552,039	
Total Acreage	12.67	

Section V—Space Needs Program

3. Maintenance Shops Program

C. Space Needs

2. Detailed Shops Space Needs

2) Detailed Space Requirements:

- 3)** On the following pages is an extract from the Maintenance Shops Facility's Space Needs developed by the consultant MDG (Maintenance Design Group). The extract shows the Detailed Space Needs for each of the Maintenance Shops summarized above. It also shows the Vehicle Inventory. The entire MDG Report is included as an attachment Section VII—2.B. *Note: The data in this RFP are more current than the original MDG Program report; in case of conflict, use the data in the RFP.*

Section V—Space Needs Program

3. Maintenance Shops Program

C. Space Needs

2. Detailed Shops Space Needs

Olympic Region Headquarters Complex Preliminary Design Report

February 2, 2005

Area Description	Space Standard	Program 2010			Remarks
		Quantity		Area	
		Staff	Space		
Materials Lab					
Office Spaces					
Region Materials Engineer	152	1		152	Private Office
Asst. Materials Engineer	120	1		120	Private Office
Secretary	80	1		80	Workstation
Construction Trainer					Admin. Building
Soils/Pavement Engineer	96	1		96	Private Office
Lab Supervisor	120	1		120	Private Office adj. to or in Lab
IA Inspector	96	1		96	Shared Office
Asst. IA Inspector	96	1		96	Shared Office
Lab Technician	80	2		160	Workstation adj. to Lab
Conference Room	0			0	Share Lg. Conf. Room in Core Area
Copy/Fax/Work				150	
File Storage				100	
Locker Alcove	10		8	80	
Break Room				---	Incl. in Core Area
Woman's Room				---	Incl. in Core Area
Men's Room				---	Incl. in Core Area
Janitor's Closet				---	Incl. in Core Area
Subtotal				1,250	
Circ/Mech/Elect/Structural	0%			0	See Note 1
Subtotal: Office Spaces					
Lab Area					
Crusher/Shaker Room		9		1,250	
Small Shaker Room				150	Isolated, sound proof, dust collection
Density Testing Room				120	Isolated, sound proof, dust collection
Aggregate Breakdown Room				300	Isolated, sound proof
HMA Testing Room				500	Adj. to Shaker Rm; dust collection
Soil Testing				900	Compressed air, dust collect; space for training
Equipment Storage/Maintenance				850	Compressed air, dust collect; space for training
Sample Receiving Area				1,050	Secured; workbench, buffer/grinder
Lab Field Storage				200	After hours access
Sample Storage				75	Lab samples, coring equipment, supplies
Nuclear Gauge Storage				150	
Elect/Telecom/Data Room				75	Secured; racks
Truck Bay (Insp./Core Rig)				0	See Core Areas
Subtotal				0	See Covered Parking
Circ/Mech/Elect/Structural	0%			4,220	
				0	See Note 1
Subtotal: Lab Area					
Exterior Storage					
Waste Material Bin Storage				4,220	
Subtotal					
Circulation	0%			200	Bin storage adjacent to Aggregate Testing
				0	See Note 1
Subtotal: Exterior Storage					
				200	

Continued on next page

Section V—Space Needs Program

3. Maintenance Shops Program

C. Space Needs

2. Detailed Shops Space Needs

Area Description	Space Standard	Program 2010			Remarks
		Quantity		Area	
		Staff	Space		

Materials Lab Continued					
Covered Parking					
Large	12 x 40		1	480	Drill/Core Rig (Coring machine hooked up to truck)
Subtotal				480	
Circulation	0%			0	See Note 2
Subtotal: Covered Parking					
Exterior Parking					
Standard	10 x 20		7	1,400	SUV's, pick-ups, sedans, Full size trucks
Subtotal				1,400	
Circulation	0%			0	See Note 2
Subtotal: Exterior Parking					
Total: Materials Lab					
		9	8	7,350	

*Note 1-Building Circulation included in the Summary *Note 2-Parking Circulation is included in the Summary.

Construction PE					
Lab Area					
Construction Materials Lab	300		2	600	Adjacent to Materials Lab
Subtotal				600	
Circ/Mech/Elect/Structural	0%			0	See Note 1
Subtotal: Lab Area				600	
Enclosed Storage (unheated)					
Field Supply Storage	300		2	600	Stakes
Subtotal				600	
Circ/Mech/Elect/Structural	0%			0	See Note 1
Subtotal: Enclosed Storage Area				600	
Exterior Parking					
Standard	10 x 20		35	7,000	SUV's, pick-ups, sedans
Subtotal				7,000	
Circulation	0%			0	See Note 2
Subtotal: Exterior Parking			35	7,000	
Total: Construction PE			35	8,200	

*Note 1-Building Circulation included in the Summary *Note 2-Parking Circulation is included in the Summary.

Section V—Space Needs Program

3. Maintenance Shops Program

C. Space Needs

2. Detailed Shops Space Needs

Area Description	Space Standard	Program 2010			Remarks
		Quantity		Area	
		Staff	Space		

Trades					
Crew Spaces					
Plant Manager 1	120	0	0	Located in Admin. Bldg.	
Plant Manager 2	120	1	120	Located in Admin. Bldg.	
Transportation Systems Tech B	34	2	68	Work carrel in Crew Room	
Maintenance Specialist Transp.	34	4	136	Work carrel in Crew Room	
Trades Helper	36	1	36	Work carrel in Crew Room	
Plan Storage			---	Located w/ Archive Storage	
Manual/Archive Storage			---		
Subtotal			360		
Circ/Mech/Elect/Structural	0%		0	See Note 1	
Subtotal: Crew Spaces					
Shop Area					
Locker Alcove	10	8	80	18" x 18" full height lockers	
Carpentry/Metal Shop			1,400	Central dust collection; share w/ Bridge Shop	
Finished Carpentry			---	Assembly/laydown; combined w/Carpentry	
Paint Area			200	10' x 20' Spray booth, shelving; shared by all	
Plumbing Area			250	Open work area; pipe threader	
Compressor Bay			400	Incl. scissor lift; OH door	
Receiving/Transition Area			400	OH door	
Electrical Shop			250	Clean; test bench; all volts; forklift access	
Lock Shop			100	Secure; peg bd, sm. bins, buffer/grinder	
Subtotal			3,080		
Circ/Mech/Elect/Structural	0%		0	See Note 1	
Subtotal: Shop Area					
Enclosed Vehicle/Equip Parking					
Scissor lift	8 x 10	1	---	Stored in shop or covered storage	
Subtotal			0		
Circulation	0%		0		
Subtotal: Enclosed Parking					
Enclosed Storage (unheated)					
Landscape Storage			100	Hanging tools, lumber	
Tool Crib			400		
Materials Storage			400	Brick laying materials, scaffolding	
Subtotal			900		
Circ/Mech/Elect/Structural	0%		0	See Note 1	
Subtotal: Enclosed Storage					
Exterior Parking					
Small	8 x 10	1	80	Trailer for small equipment	
Standard	10 x 20	5	1,000	Pick-ups, trailers	
Medium	12 x 30	10	3,600	Vans, bucket truck, dump truck	
Subtotal			4,680		
Circulation	0%		0	See Note 2	
Subtotal: Exterior Parking					
Total: Trades					
	8	16	9,020		

*Note 1-Building Circulation included in the Summary *Note 2-Parking Circulation is included in the Summary.

Section V—Space Needs Program

3. Maintenance Shops Program

C. Space Needs

2. Detailed Shops Space Needs

Area Description	Space Standard	Program 2010			Remarks
		Quantity		Area	
		Staff	Space		

Signals					
Crew Spaces					
Signal Superintendent	150	1	150	Private Office; room for 1-2 pp meeting	
Asst. Signal Superintendent	120	1	120	Private Office; room for 1-2 pp meeting	
Signal Supervisor	120	1	120	Private Office; room for 1-2 pp meeting; B	
Electrical Inspectors	60	3	180	Work carrel w/ computer & file cab. in Crew Room; B	
Transportation Systems Tech	45	12	540	Work carrel w/ computer in Crew Room; B	
Secretary Senior	100	0	0		
Stores Clerk	100	0	0		
ITS Supervisor	120	1	120	Private Office; room for 1-2 pp meeting; A	
Transportation Systems Tech	45	6	270	Work carrel in Crew Room; A	
Signal Operations Engineer	120	1	120	Private Office; C	
Asst. Signal Operations Engineer	120	0	0		
Transportation Engineer 3	96	3	288	Workstation; C	
Transportation Planning Tech	64	2	128	Workstation; C	
Transportation Systems Tech	64	1	64	Workstation; C	
Controller Test Area			80	Dedicated workstation space	
Lab-Volt Training Center			80	Dedicated space, enclosed	
Conference/Training Room			0	Share Lg. Conf. Room in Core Area	
File Storage			100		
Copy/Fax/Work			80		
Kitchenette/Coffee Bar			0		
Subtotal			2,440		
Circ/Mech/Elect/Structural	0%		0	See Note 1	
Subtotal: Crew Spaces		32	2,440		

Continued on next page

Section V—Space Needs Program

3. Maintenance Shops Program

C. Space Needs

2. Detailed Shops Space Needs

Area Description	Program 2010			Remarks
	Quantity		Area	
	Staff	Space		

Signals Continued				
Shop Area				
Test Shop/Storage - Signal Maint.				
Test Shop/Storage - ITS Maint.				
Locker Alcove				
Electronic Work Area/Storage				
TMC Spare Parts Storage				
Subtotal				
Circ/Mech/Elect/Structural				
Subtotal: Shop Area				
Enclosed Storage (unheated)				
Storage Bay				
Vehicle Storage				
Subtotal				
Circ/Mech/Elect/Structural				
Subtotal: Covered Storage				
Exterior Storage				
Pole Storage/Laydown area				
Subtotal				
Circulation				
Subtotal: Exterior Storage				
Covered Parking				
Small				
Standard				
Medium				
Large				
Subtotal				
Circulation				
Subtotal: Covered Parking				
Exterior Parking				
Small				
Standard				
Subtotal				
Circulation				
Subtotal: Exterior Parking				
Total: Signals				

		27	1,600 1,600 270 200	OH door; stg mezz.; electrostatic bench Climate controlled
			3,670 0	See Note 1
			3,670	
			1,200 0	Signs, cabinets, hardware See Covered Parking
			1,200 0	See Note 1
			1,200	
			---	Incl. in Stores Exterior Storage
			0 0	See Note 1
			0	
		0	0	Portable traffic signals
		4.6	920	Portable H.A.R. units and signs
		4.5	1,620	Man-lifts (covered - high priority)
		9	4,320	Man-lifts (covered - high priority)
			6,860 0	see note 2
		18.1	6,860	
		2	160	Air compressor, generator
		27	5,400	Pick-ups, vans, sedans
			5,560 0	see note 2
		29	5,560	
		32	47.1	19,730

*Note 1-Building Circulation included in the Summary Note2-Parking circulation include in the summary.

Section V—Space Needs Program

3. Maintenance Shops Program

C. Space Needs

2. Detailed Shops Space Needs

Area Description	Program 2010			Remarks
	Quantity		Area	
	Staff	Space		

Sign Shop				
Crew Spaces				
Maintenance Supervisor	1		120	For Signs, Buttons, Plastics, Striping
Lead Tech/Sign Installer 2/Crew Room	1		150	Office plus Crew Room
Sign Installer 1	3		0	
Locker Alcove		4	40	
Subtotal			310	
Circ/Mech/Elect/Structural			0	See Note 1
Subtotal: Crew Spaces				
Shop Area				
Sign Assembly Shop			1,000	24' OH door, hoist, heat, comp. air, 240 VAC
Subtotal			1,000	
Circ/Mech/Elect/Structural			0	See Note 1
Subtotal: Shop Area				
Covered Storage				
Small Signs			270	
Subtotal			270	
Circ/Mech/Elect/Structural			0	See Note 1
Subtotal: Covered Storage				
Exterior Storage				
Large Signs			0	Truck maneuvering
Posts			3,750	Truck maneuvering
Sign Panels			---	
Subtotal			3,750	
Circ/Mech/Elect/Structural			0	See Note 1
Subtotal: Exterior Storage				
Covered Parking				
Medium	0		0	Manlift truck
Large	0		0	Digger-derick truck
Subtotal			0	
Circ/ulation			0	see note 2
Subtotal: Covered Parking				
Exterior Parking				
Standard	1		200	Pick-up
Medium	2		720	Attenuator, pole trailer
Large	1		480	Digger-derick truck
Subtotal			1,400	
Circ/ulation			0	see note 2
Subtotal: Exterior Parking				
Total: Sign Shop				
	5	3	6,730	

*Note 1-Building Circulation included in the Summary Note2-Parking circulation include in the summary.

Section V—Space Needs Program

3. Maintenance Shops Program

C. Space Needs

2. Detailed Shops Space Needs

Area Description	Program 2010			Remarks
	Quantity		Area	
	Staff	Space		

Button Shop				
Crew Spaces				
Lead Tech	1		150	Office plus Crew Room
Maintenance Tech	8		280	
Locker Alcove		9	90	
Subtotal			520	
Circ/Mech/Elect/Structural			0	See Note 1
Subtotal: Crew Spaces				
Shop Area				
Workshop			300	Heated, 240 VAC, spc. to maintain equip.
Subtotal			300	
Circ/Mech/Elect/Structural			0	See Note 1
Subtotal: Shop Area				
Enclosed Heated				
Button and Tar Storage			0	See Covered Storage
Subtotal			0	
Circ/Mech/Elect/Structural			0	See Note 1
Subtotal: Enclosed Heated				
Covered Storage				
Button and Tar Storage			480	Combine Buttons, Plastics, Striping No south or west openings; HD racks
Subtotal			480	
Circ/Mech/Elect/Structural			0	See Note 1
Subtotal: Covered Storage				
Covered Parking				
Standard		2	400	Button truck, recess grinder w/trailer
Subtotal			400	
Circ/ulation			0	see note 2
Subtotal: Covered Parking				
Exterior Parking				
Standard		4	800	Pick-ups, vans
Medium		3	1,080	Attenuator
Subtotal			1,880	
Circ/ulation			0	see note 2
Subtotal: Exterior Parking				
Total: Buttons				
	9	9	3,580	

*Note 1-Building Circulation included in the Summary Note2-Parking circulation include in the summary.

Section V—Space Needs Program

3. Maintenance Shops Program

C. Space Needs

2. Detailed Shops Space Needs

Area Description	Program 2010			Remarks
	Quantity		Area	
	Staff	Space		

Thermo Plastics				
Crew Spaces				
Lead Tech	1		150	Office plus Crew Room
Maintenance Tech	4		140	
Locker Alcove		5	50	
Subtotal			340	
Circ/Mech/Elect/Structural			0	See Note 1
Subtotal: Crew Spaces				
Shop Area				
Workshop			300	
Subtotal			300	
Circ/Mech/Elect/Structural			0	See Note 1
Subtotal: Shop Area				
Enclosed Vehicle/Equip. Parking				
Small Stripers		0	0	Heated
Subtotal			0	
Circ/Mech/Elect/Structural			0	See Note 1
Subtotal: Enclosed Parking				
Enclosed Storage				
Thermoplastics			400	
Methyl methacrylate			200	
Beads			100	Heavy duty racks
Flammable Liquid			50	
Subtotal			750	
Circ/Mech/Elect/Structural			0	See Note 1
Subtotal: Enclosed Storage				
Covered Parking				
Small		1	80	Grinders
Standard		0	0	Grinder w/trailer
Medium		2	720	Thermoplastic, methyl, support trucks
Subtotal			800	
Circulation			0	see note 2
Subtotal: Covered Parking				
Exterior Parking				
Standard		1	200	Utility Trailer
Medium		1	360	Attenuator
Subtotal			560	
Circulation			0	see note 2
Subtotal: Exterior Parking				
Total: Thermo Plastics				
5	5	2,750		

*Note 1-Building Circulation included in the Summary Note2-Parking circulation included in the summary.

Section V—Space Needs Program

3. Maintenance Shops Program

C. Space Needs

2. Detailed Shops Space Needs

Area Description	Program 2010			Remarks
	Quantity		Area	
	Staff	Space		

Striping				
Crew Spaces				
Lead Tech	1		150	Office plus Crew Room
Maintenance Tech	8		280	Crew Room
Locker alcove		9	90	
Subtotal			520	
Circ/Mech/Elect/Structural			0	See Note 1
Subtotal: Crew Spaces	9		520	
Shop Area				
Workshop			300	Accom. 2 crews
Bead Storage			---	Incl. in Covered Storage
Parts and Supplies		1	300	Workbench
Subtotal			600	
Circ/Mech/Elect/Structural			0	See Note 1
Subtotal: Shop Area			600	
Enclosed Heated Veh./Eq. Parking				
Striper Truck		1	480	
Subtotal			480	
Circ/Mech/Elect/Structural			0	See Note 2
Subtotal: Enclosed Parking		1	480	
Covered Storage				
Storage Bay			700	14' clear; forklift access; beads in totes
Paint Storage			0	Spill containment
Loading Area			0	Drive-thru, adjacent to Paint Stg.
Subtotal			700	
Circ/Mech/Elect/Structural			0	See Note 1
Subtotal: Covered Storage			700	
Covered Parking				
Small		0	0	Grinders
Standard		1	300	Grinder w/trailer
Medium		0	0	Thermoplastic, methyl, support trucks
Subtotal			300	
Circulation			0	see note 2
Subtotal: Covered Parking		1	300	
Exterior Parking				
Standard		2	400	Buffer trucks, pick-ups
Medium		2	720	Attenuator, Cone truck
Large		1	480	Support truck (materials)
Subtotal			1,120	
Circulation			0	See Note 2
Subtotal: Exterior Parking		4	1,120	
Total: Striping				
	9	4	6,720	

*Note 1-Building Circulation included in the Summary Note2-Parking circulation included in the summary.

Section V—Space Needs Program

3. Maintenance Shops Program

C. Space Needs

2. Detailed Shops Space Needs

Area Description	Program 2010			Remarks
	Quantity		Area	
	Staff	Space		
Data Collection				
Shop Area				
Standard		1	300	Data Collection Counters
Subtotal			300	
Circulation			0	See Note 2
Subtotal: Exterior Parking		1	300	
Total: Data Collection	0	1	300	

*Note 1-Building Circulation included in the Summary Note2-Parking circulatin include in the summary.

Work Zone Safety				
Crew Spaces				
Supervisor	1		120	Private Office
Lead Tech	2		90	Work carrel w/ computer in Crew Room
Maintenance Tech II	3		100	Work carrel in Crew Room
Maintenance Tech I	0		0	
Maintenance Laborers	0		0	
Crew Room	0		120	16 Seasonals plus Lead Techs and Maint. Tech II's
Locker Alcove		16	160	Seasonal Employees
Subtotal			590	
Circ/Mech/Elect/Structural			0	See Note 1
Subtotal: Crew Spaces	6		590	
Shop Area				
Workshop			150	Workbench, can be in storage area
Storage (secure)			100	Hand tools, light stands, vests, hard hats
Subtotal			250	
Circ/Mech/Elect/Structural			0	See Note 1
Subtotal: Shop Area			250	
Covered Storage				
Storage Bay			200	Cones, signs,stands, traffic drums
Subtotal			200	
Circ/Mech/Elect/Structural			0	See Note 1
Subtotal: Covered Storage			200	
Exterior Storage				
Hazardous Materials Container			80	Flares, generators; secured
Subtotal			80	
Circ/Mech/Elect/Structural			0	See Note 1
Subtotal: Exterior Storage			80	
Covered Parking				
TMA Trucks		0	0	
Subtotal			0	
Circulation			0	See Note 2
Subtotal: Covered Parking		0	0	
Exterior Parking				
Small	1		80	Arrow Board Trailer
TMA Trucks	3		1,440	
Standard	11		2,200	Pick-ups, Trailers
Subtotal			3,720	
Circulation			0	See Note 2
Subtotal: Exterior Parking		15	3,720	
Total: Work Zone Safety	6	15	4,840	

*Note 1-Building Circulation included in the Summary Note2-Parking circulatin include in the summary.

Section V—Space Needs Program

3. Maintenance Shops Program

C. Space Needs

2. Detailed Shops Space Needs

Area Description	Space Standard	Program 2010			Remarks
		Quantity		Area	
		Staff	Space		

TEF Radio					
Crew Spaces					
Senior Telecomm Specialist	100	1		100	WS w/elect. bench adj. to shop with running water
ECST/Field	80	1		0	Shared with TST B
Trans. System Tech B	80	1		80	Workstation w/elect. bench adj. to shop
Subtotal				180	
Circ/Mech/Elect/Structural	0%			0	See Note 1
Subtotal: Crew Spaces					
Shop Area					
Screened Room				180	Exhaust fan, outlet strips; climate control
Staging Room				145	Multiple outlet strips; climate controlled
Workshop				360	Metal working, comp. air, in Radio Bay
Large Radio Bay	20 x 25		1	515	Accommodate largest DOT vehicles; heated
Subtotal				1,200	
Circ/Mech/Elect/Structural	0%			0	See Note 1
Subtotal: Shop Area					
Enclosed Vehicle (unheated)					
Medium	12 x 30		0	0	Snow Vehicle
Subtotal				0	
Circulation	0%			0	See Note 2
Subtotal: Enclosed Vehicle					
Exterior Yard Areas					
Radio Building				620	Prefabricated Building
Radio Tower				400	Triangular tower 20' legs
Subtotal				1,020	
Circulation	0%			0	See Note 1
Subtotal: Exterior Yard Areas					
Covered Parking					
Medium	12 x 30		0	0	See Exterior Parking
Subtotal				0	
Circulation	0%			0	See Note 2
Subtotal: Covered Parking					
Exterior Parking					
Medium	12 x 30		3	1,080	Trucks w/custom box and Snow Vehicle
Subtotal				1,080	
Circulation	0%			0	See Note 2
Subtotal: Exterior Parking					
Total: TEF Radio					
	3	3		3,480	

*Note 1-Building Circulation included in the Summary *Note 2-Parking Circulation is included in the Summary.

Section V—Space Needs Program

3. Maintenance Shops Program

C. Space Needs

2. Detailed Shops Space Needs

Area Description	Space Standard	Program 2010			Remarks
		Quantity		Area	
		Staff	Space		

Bridge Maintenance					
Crew Spaces					
Supervisor	120	1		120	Private Office
Lead Tech	50	2		100	Shared Office
Maintenance Tech II	28.5	10		285	Work carrel in Crew Room
Locker Alcove	10		12	275	Lockers 36" x 18"
Subtotal				780	
Circ/Mech/Elect/Structural	0%			0	See Note 1
Subtotal: Crew Spaces					
Shop Area					
Carpentry/Wood Shop				0	Shared w/ Trades Carpentry Shop
Welding Bay/Shop				1,200	Bridge crane, central vac.; adj. to Trades
Welding/Truck Drying Bay				1,200	Bridge crane, central vac.
Steel Prep Room				600	Adj. to Weld Shop; sandblasting, paint
Storage	20 x 40			900	Bolts/nails, concrete, asphalt patch; steel 60' lengths
Mezzanine Storage				600	Need mezzanine storage (not included in subtotal)
Subtotal				3,900	
Circ/Mech/Elect/Structural	0%			0	See Note 1
Subtotal: Shop Area					
Exterior Storage					
Mottman Yard				---	Remains at Mottman Yard
Taylor Town Yard				---	Remains at Taylor Town
Subtotal				0	
Circ/Mech/Elect/Structural	0%			0	See Note 1
Subtotal: Exterior Storage					
Exterior Parking					
Small	8 x 10		4	320	Lite tower, arrow board
Standard	10 x 20		7	1,400	Pick-ups
Medium	12 x 30		6	2,160	Attenuator, Tool Truck, workboat on trailer
Large	12 x 40		2	960	Boom, Hydralift; drive thru bay
Subtotal			19	4,840	
Circulation	0%			0	See Note 2
Subtotal: Exterior Parking					
Total: Bridge Maintenance					
	13	19		9,520	

*Note 1-Building Circulation included in the Summary *Note 2-Parking Circulation is included in the Summary.

Section V—Space Needs Program

3. Maintenance Shops Program

C. Space Needs

2. Detailed Shops Space Needs

Area Description	Program 2010			Remarks
	Quantity		Area	
	Staff	Space		

Central Stores				
Office Spaces				
Purchasing Manager	1		120	Private Office
Supply Officer 1	1		80	Workstation
Supply Control Tech	1		80	Workstation
Warehouse Supply Control Tech	1		80	Work Carrel in Warehouse
Customer Lobby/Issue Counter			150	
Subtotal			510	
Circ/Mech/Elect/Structural			0	See Note 1
Subtotal: Office Spaces	4		510	
Warehouse				
Inventory Storage			5,000	Pallet, bulk racks
Signal Cabinets Storage			0	OH door; forklift access
Receiving			5,000	
Subtotal			5,000	
Circ/Mech/Elect/Structural			0	See Note 1
Subtotal: Warehouse			5,000	
Enclosed Vehicle/Equip Parking				
Standard		0	0	Forklift; stored in warehouse
Subtotal			0	
Circ/Mech/Elect/Structural			0	See Note 1
Subtotal: Enclosed Parking		0	0	
Covered Storage				
Loading Dock			0	Shared w/ TEF
Inventory Storage			2,000	Adjacent to Storeroom
Compressor Area			incl.	Shared by all shops, duplex compressor w/ dryer
Subtotal			2,000	
Circ/Mech/Elect/Structural			0	See Note 1
Subtotal: Covered Storage			2,000	
Exterior Storage				
Dumpsters/Recycle Containers			300	
Pole Yard			70,000	Fenced; storage racks; 35-60' lengths
Yard Storage			15,000	Paint; arm racks; 10-16' mast arms, lumber
Subtotal			85,300	
Circ/Mech/Elect/Structural			0	See Note 1
Subtotal: Exterior Storage			85,300	
Exterior Parking				
Standard		1	200	Pick-up; can be stored in warehouse
Subtotal			200	
Circulation			0	See Note 2
Subtotal: Exterior Parking		1	200	
Total: Central Stores	4	1	93,010	

*Note 1-Building Circulation included in the Summary Note2-Parking circulation include in the summary.

Section V—Space Needs Program

3. Maintenance Shops Program

C. Space Needs

2. Detailed Shops Space Needs

Area Description	Space Standard	Program 2010			Remarks
		Quantity		Area	
		Staff	Space		

TEF Equipment Maintenance					
Office/Support Areas					
WMS Band 2	150	1	150	Private Office; could be on 2nd floor	
Financial Analyst	80	1	80	Shared Office; could be on 2nd floor	
Office Assistant	80	1	80	Share office w/ Fin. Anal.; could be on 2nd fl.	
Equipment Analyst	120	2	240	Private Office; could be on 2nd floor	
Equipment Shop Supervisor	60	2	120	Private Office	
Customer Service Writer	80	1	80	Workstation	
Reception Area			150	Adjacent to Customer Service Writer	
Copy/File/Fax			150		
Mechanic I		12	0		
Mechanic II		3	0		
Equipment Shop Assistant		4	0		
Reference/Manual Library			200	2 workstations; shelving	
Break Room/Kitchenette			---	See Core Areas	
Women's Room/Showers/Lockers			---	See Core Areas	
Men's Room/Showers/Lockers			---	See Core Areas	
Custodial Closet			---	See Core Areas	
Electrical/Mechanical Room			---	See Core Areas	
Telecom/Data Room			---	See Core Areas	
Subtotal			1,250		
Circ/Mech/Elect/Structural	0%		0	See Note 1	
Subtotal: Office/Support Areas					
Repair Bays					
Heavy Duty Bay (more than 1 ton)	20 x 50	4	4,000	440 total vehicles;	
Heavy Duty Lube Bay	20 x 50	1	1,000		
Light Duty Bay (up to 1 ton)	18 x 35	4	2,520	912 total vehicles;	
Light Duty Bay (up to 1 ton)	20 x 35	3	2,100	912 total vehicles;	
Subtotal			9,620		
Circ/Mech/Elect/Structural	0%		0	See Note 1	
Subtotal: Repair Bays					
Shop/Storage Areas					
Welding/Fabrication Bay	20 x 50	3	3,000	1 bay shared w/ Bridge Shop	
Fabrication Area/Welding Shop			---		
Steel Storage			---		
Welding Shop			---	Adj. to Steel Storage	
Portable Equipment Storage	300	1	300		
Common Work Area	300	1	300		
Toolbox Storage	300	1	300		
Subtotal			3,900		
Circ/Mech/Elect/Structural	0%		0	See Note 1	
Subtotal: Shop/Storage Areas					

Continued on next page

Section V—Space Needs Program

3. Maintenance Shops Program

C. Space Needs

2. Detailed Shops Space Needs

Area Description	Space Standard	Program 2010			Remarks
		Quantity		Area	
		Staff	Space		

TEF Equipment Continued					
Parts Room					
Equipment Parts Specialist I	80	1	80	Shared office in Parts Room	
Equipment Parts Specialist II	80	1	80	Shared office in Parts Room	
Basement Parts Storage			---		
Main Parts Room			2,000	Small, fast moving inventory; Remstar Unit	
Warehouse - Parts Department				Pallet and bulk racks, OH door, forklift	
Tool Room			600	Secure; access by Parts Spec.	
Lube/Compressor Room			600	Exterior access	
Battery Storage			0	Locate on outside wall	
Receiving/Forklift	400	1	0		
Subtotal			3,360		
Circ/Mech/Elect/Structural	0%		0	See Note 1	
Subtotal: Parts Room					
Enclosed Storage (unheated)					
Warehouse - TEF			300	Large parts, TEF Radio equipment	
Subtotal			300		
Circ/Mech/Elect/Structural	0%		0	See Note 1	
Subtotal: Enclosed Parking					
Covered Parking					
Large	12 x 40	1	480	Grove crane and forklift	
Subtotal			480		
Circ/Mech/Elect/Structural	0%		0	See Note 1	
Subtotal: Covered Parking					
Exterior Storage					
Steel/Aluminum Bins			200	Secured	
Scrape Metal Bins			200	Adjacent to Shop	
Subtotal			400		
Circ/Mech/Elect/Structural	0%		0	See Note 1	
Subtotal: Exterior Storage					
Exterior Parking					
Heavy Ready/Down Line	12 x 30	10	3,600	Easy access to Heavy Bays	
Light Ready/Down Line	10 x 20	20	4,000	Easy access to Light Bays	
Standard	10 x 20	3	600	Trucks, sedans, vans	
Subtotal			8,200		
Circulation	0%		0	See Note 2	
Subtotal: Exterior Parking					
Total:TEF Equip Maintenance					
	29	33	27,510		

*Note 1-Building Circulation included in the Summary *Note 2-Parking Circulation is included in the Summary.

Section V—Space Needs Program

3. Maintenance Shops Program

C. Space Needs

2. Detailed Shops Space Needs

Area Description	Program 2010			Remarks
	Quantity		Area	
	Staff	Space		

Fuel/Wash Area				
Covered Yard Areas				
Fuel Island		1,800	One 6' W island w/ two 12' lanes	
Washout Area		1,200	Sand/Oil separator required	
Subtotal		3,000		
Circulation		0	See Note 1	
Subtotal: Covered Yard Areas				
Exterior Yard Areas				
Fuel Island		---	See Covered Yard	
Fuel Farm		1,800	underground tanks	
Washout Area		---	See Covered Yard	
Subtotal		1,800		
Circulation		0	See Note 1	
Subtotal: Exterior Yard Areas				
Total: Fuel/Wash Areas				
	0 #####	4,800		

*Note 1-Circulation will be determined at the design charrette.

Core Spaces				
Break Room/Kitchenette			300	Sink, microwave, refrigerator, vending
Women's Room/Shower/Lockers			210	1 sink, 1 toilet, 1 shower, 6 lockers
Men's Room/Shower/Lockers			530	2 sinks, 2 urinals, 2 toilets, 2 showers, 31 lockers
Custodial Closet			100	
Electrical/Mechanical Room			160	
Telecom/Data Room			240	
Large Conference Room			500	30 people w/ storage cabinets
Training Room			0	
Kitchenette			200	Vending, sink, fridge, microwave, storage
Men's Locker Room	132	2	0	Moved to Shop Spaces
Women's Locker Room	33		0	Moved to Shop Spaces
Men's Room/Shower	132		1580	Adj. to Locker Rm
Women's Room/Shower	33		495	Adj. to Locker Rm
Janitor Closet			200	Adj. to Restrooms
Data/Telecom Room			160	
Mechanical/Electrical			221	
Subtotal: Core Areas			4,896	
Circ/Mech/Elec/Struct			0	See Note 1
Total: Core Spaces			4,896	

*Note 1-Building Circulation included in the Summary Note2-Parking circulation include in the summary.

Section V—Space Needs Program

3. Maintenance Shops Program

C. Space Needs

2. Detailed Shops Space Needs

Area Description	Space Standard	Program 2010			Remarks
		Quantity		Area	
		Staff	Space		

Parking					
<i>Employee/Visitor/Accessible</i>					
Shop Employee Parking	9 x 18		132	21,384	
Carpool Parking	9 x 18		5	810	
Motorcycle Parking	5 x 10		3	150	
Visitor Parking	9 x 18		4	590	
Accessible Parking	13 x 18		4	852	
Bike Parking				200	
State Light Vehicles					
Heavy Vehicles and Equipment					
<i>Subtotal: Parking Circulation</i>					
0%			147	23,985	0 See Note 2
Total: Parking					
23,985					

**Note 1-Building Circulation included in the Summary *Note 2-Parking Circulation is included in the Summary.*

Section V—Space Needs Program

3. Maintenance Shops Program

C. Space Needs

2. Detailed Vehicle Inventory

Vehicle Parking Analysis for 2010

Vehicles/Equipment to be parked at Olympic Region HQ

Olympic Region Headquarters Complex

Preliminary Design Report

January 26, 2006

			Existing Vehicle Quantity	2010 Vehicle Quantity	Preferred Parking Method (E,C,H)	Vehicle Parking Analysis											
						Parking Sizes: S=8x10 Standard=10x20 M=12x30 L=12x40											
						Exterior (E)				Covered (C)				Heated (H)			
Department	Size	Type				S	Stan	M	L	S	Stan	M	L	S	Stan	M	L
Materials Lab																	
	ST	SUV	2	2	E	0	2	0	0	0	0	0	0	0	0	0	0
	ST	Pick-up Truck S-10	1	1	E	0	1	0	0	0	0	0	0	0	0	0	0
	ST	Pick-up Truck Full Size	3	3	E	0	3	0	0	0	0	0	0	0	0	0	0
	ST	Sedan	0	1	E	0	1	0	0	0	0	0	0	0	0	0	0
	L	Drill/Coring Rig	1	1	C	0	0	0	0	0	0	0	1	0	0	0	0
SUBTOTAL			7	8		0	7	0	0	0	0	0	1	0	0	0	0
Construction PE																	
	ST	Pick-up Truck Full Size	35	35	E	0	35	0	0	0	0	0	0	0	0	0	0
SUBTOTAL			35	35		0	35	0	0	0	0	0	0	0	0	0	0
Trades																	
	ST	Pick-up Truck	1	2	E	0	2	0	0	0	0	0	0	0	0	0	0
	M	Van	7	8	E	0	0	8	0	0	0	0	0	0	0	0	0
	M	Bucket Truck	1	1	E	0	0	1	0	0	0	0	0	0	0	0	0
	S	Scissor Lift	1	1	H	0	0	0	0	0	0	0	0	1	0	0	0
	M	Dump Truck	1	1	E	0	0	1	0	0	0	0	0	0	0	0	0
	S	Trailer	1	1	E	1	0	0	0	0	0	0	0	0	0	0	0
	ST	Trailer	3	3	E	0	3	0	0	0	0	0	0	0	0	0	0
SUBTOTAL			15	17		1	5	10	0	0	0	0	0	1	0	0	0

Section V—Space Needs Program

3. Maintenance Shops Program

C. Space Needs

2. Detailed Vehicle Inventory

			Existing Vehicle Quantity	2010 Vehicle Quantity	Preferred Parking Method	Vehicle Parking Analysis														
						Parking Sizes: S=8x10 Standard=10x20 M=12x30 L=12x40														
						Exterior (E))				Covered (C)				Heated (H)						
Department	Size	Type			(E,C,H)	S	Stan	M	L	S	Stan	M	L	S	Stan	M	L			
Signals																				
Signals Maint.	ST	Sedan	1	1	E	0	1	0	0	0	0	0	0	0	0	0	0			
Signals Maint.	ST	Pick-up	2	4	E	0	4	0	0	0	0	0	0	0	0	0	0			
Signals Maint.	L	Man-lift (7C3)	5	6	C	0	0	0	0	0	0	0	6	0	0	0	0			
Signals Maint.	M	Man-lift (7C4)	1	1	C	0	0	0	0	0	0	1	0	0	0	0	0			
Signals Maint.	ST	Cargo Van	2	2	E	0	2	0	0	0	0	0	0	0	0	0	0			
Signals Maint.	ST	Mini Van	2	4	E	0	4	0	0	0	0	0	0	0	0	0	0			
Signals Maint.	M	Ditchwitch/Trencher	1	1	C	0	0	0	0	0	0	1	0	0	0	0	0			
Signals Maint.	L	Work Zone Truck	1	2	C	0	0	0	0	0	0	0	2	0	0	0	0			
Signals Maint.	M	Loop Cutting Truck	1	1	C	0	0	0	0	0	0	1	0	0	0	0	0			
Signals Maint.	S	Air Compressor	1	1	E	1	0	0	0	0	0	0	0	0	0	0	0			
Signals Maint.	S	Generator	1	1	E	1	0	0	0	0	0	0	0	0	0	0	0			
Signals Maint.	S	Portable Traffic Signals	2	2	E	2	0	0	0	0	0	0	0	0	0	0	0			
ITS	ST	Pick-up	1	1	E	0	1	0	0	0	0	0	0	0	0	0	0			
ITS	ST	Cargo Van	2	2	E	0	2	0	0	0	0	0	0	0	0	0	0			
ITS	M	Man-lift (7C4) 1 man crew	0	1	C	0	0	0	0	0	0	1	0	0	0	0	0			
ITS	L	Man-lift (7C3) 2 man crew	1	1	C	0	0	0	0	0	0	0	1	0	0	0	0			
ITS	ST	Portable H.A.R. Units	3	5	E	0	5	0	0	0	0	0	0	0	0	0	0			
ITS	ST	Portable H.A.R. Units	3	3	C	0	0	0	0	0	3	0	0	0	0	0	0			
ITS	ST	Portable H.A.R. Signs	4	4	E	0	4	0	0	0	0	0	0	0	0	0	0			
ITS	ST	Portable H.A.R. Signs	2	2	C	0	0	0	0	0	2	0	0	0	0	0	0			
Signal Ops	ST	Mini Van	3	5	E	0	5	0	0	0	0	0	0	0	0	0	0			
SUBTOTAL			39	50		4	28	0	0	0	5	4	9	0	0	0	0			
Signs																				
	L	Digger-derick Truck	1	1	E	0	0	0	1	0	0	0	0	0	0	0	0			
	M	Manlift Truck	1	1	E	0	0	1	0	0	0	0	0	0	0	0	0			
	M	Pole Trailer	1	1	E	0	0	1	0	0	0	0	0	0	0	0	0			
	M	Attenuator Trucks	0	1	E	0	0	1	0	0	0	0	0	0	0	0	0			
	ST	Pick-up Truck	1	1	E	0	1	0	0	0	0	0	0	0	0	0	0			
SUBTOTAL			4	5		0	1	3	1	0	0	0	0	0	0	0	0			

Section V—Space Needs Program

3. Maintenance Shops Program

C. Space Needs

2. Detailed Vehicle Inventory

			Existing Vehicle Quantity	2010 Vehicle Quantity	Preferred Parking Method	Vehicle Parking Analysis														
						Parking Sizes: S=8x10 Standard=10x20 M=12x30 L=12x40														
									Exterior (E))				Covered (C)				Heated (H)			
Department	Size	Type			(E,C,H)	S	Stan	M	L	S	Stan	M	L	S	Stan	M	L			
Buttons																				
	ST	Button Truck	1	1	C	0	0	0	0	0	1	0	0	0	0	0	0			
	ST	Pick-up Trucks/Vans	3	4	E	0	4	0	0	0	0	0	0	0	0	0	0			
	M	Attenuator Trucks	3	3	E	0	0	3	0	0	0	0	0	0	0	0	0			
	ST	Recess grinder w/trailer	1	1	C	0	0	0	0	0	1	0	0	0	0	0	0			
SUBTOTAL			8	9		0	4	3	0	0	2	0	0	0	0	0	0			
Thermo Plastics																				
	M	Thermoplastic Truck	1	1	C	0	0	0	0	0	0	1	0	0	0	0	0			
	M	Methyl Truck	1	1	C	0	0	0	0	0	0	1	0	0	0	0	0			
	M	Support Truck	1	1	E	0	0	1	0	0	0	0	0	0	0	0	0			
	ST	Grinder w/Trailer	1	1	E	0	1	0	0	0	0	0	0	0	0	0	0			
	ST	Utility Trailer	1	1	E	0	1	0	0	0	0	0	0	0	0	0	0			
	M	Attenuator Truck	0	1	E	0	0	1	0	0	0	0	0	0	0	0	0			
	S	Small Stripers	2	2	H	0	0	0	0	0	0	0	0	2	0	0	0			
	S	Small Grinders	2	2	E	2	0	0	0	0	0	0	0	0	0	0	0			
	S	Small Grinders	1	1	C	0	0	0	0	1	0	0	0	0	0	0	0			
SUBTOTAL			10	11		2	2	2	0	1	0	2	0	2	0	0	0			
Striping																				
	L	Striper Truck	1	1	H	0	0	0	0	0	0	0	0	0	0	0	1			
	L	Support Truck (materials)	1	1	E	0	0	0	1	0	0	0	0	0	0	0	0			
	M	Cone Truck	1	1	E	0	0	1	0	0	0	0	0	0	0	0	0			
	M	Attenuator Truck	0	1	E	0	0	1	0	0	0	0	0	0	0	0	0			
	ST	Buffer Trucks	1	1	E	0	1	0	0	0	0	0	0	0	0	0	0			
	ST	Grinder w/Trailer	1	1	C	0	0	0	0	0	1	0	0	0	0	0	0			
	ST	Pick-up	1	1	E	0	1	0	0	0	0	0	0	0	0	0	0			
SUBTOTAL			6	7		0	2	2	1	0	1	0	0	0	0	0	1			

Section V—Space Needs Program

3. Maintenance Shops Program

C. Space Needs

2. Detailed Vehicle Inventory

			Existing Vehicle Quantity	2010 Vehicle Quantity	Preferred Parking Method	Vehicle Parking Analysis											
						Parking Sizes: S=8x10 Standard=10x20 M=12x30 L=12x40											
						Exterior (E)				Covered (C)				Heated (H)			
Department	Size	Type			(E,C,H)	S	Stan	M	L	S	Stan	M	L	S	Stan	M	L
Work Zone Safety																	
	L	TMA Trucks	2	3	E	0	0	0	3	0	0	0	0	0	0	0	0
	ST	Pick-up Truck	4	5	E	0	5	0	0	0	0	0	0	0	0	0	0
	ST	PCMS Trailers	3	4	E	0	4	0	0	0	0	0	0	0	0	0	0
	ST	Remote Control Flagman Trailers	2	2	E	0	2	0	0	0	0	0	0	0	0	0	0
	S	Arrow Board Trailer	1	1	E	1	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL			12	15		1	11	0	3	0	0	0	0	0	0	0	0
TEF Radio																	
	M	F-450 w/Custom Box	1	1	E	0	0	1	0	0	0	0	0	0	0	0	0
	M	SUV or F-450 w/Custom Box	0	1	E	0	0	1	0	0	0	0	0	0	0	0	0
	ST	Snow Vehicle	1	1	E	0	1	0	0	0	0	0	0	0	0	0	0
SUBTOTAL			2	3		0	1	2	0	0	0	0	0	0	0	0	0
Bridge Maintenance																	
	ST	Pick-up 3/4 ton (5c37, 4c14)	2	3	E	0	3	0	0	0	0	0	0	0	0	0	0
	ST	Pick-up, 1 ton, w/service body and crane arm (4c30	2	3	E	0	3	0	0	0	0	0	0	0	0	0	0
	M	Tool Truck (Lp 4700 8c52)	2	2	E	0	0	2	0	0	0	0	0	0	0	0	0
	L	Truck mounted 12 ton boom (8c53)	1	1	E	0	0	0	1	0	0	0	0	0	0	0	0
	S	Lite tower, trailer mounted	1	2	E	2	0	0	0	0	0	0	0	0	0	0	0
	S	Solar arrow board, trailerable	1	2	E	2	0	0	0	0	0	0	0	0	0	0	0
	L	Hydralift platfrom on trailer	1	1	E	0	0	0	1	0	0	0	0	0	0	0	0
	M	Attenutor, truck mounted	1	3	E	0	0	3	0	0	0	0	0	0	0	0	0
	ST	Hydroblaster, trailerable	1	1	E	0	1	0	0	0	0	0	0	0	0	0	0
	M	Workboat on trailer	1	1	E	0	0	1	0	0	0	0	0	0	0	0	0
SUBTOTAL			13	19		4	7	6	2	0	0	0	0	0	0	0	0
Central Stores																	
	ST	Ranger Pick-up Truck	1	1	E	0	1	0	0	0	0	0	0	0	0	0	0
	ST	Forklift; Rough Terrain; 10K lbs	1	1	H	0	0	0	0	0	0	0	0	0	1	0	0
SUBTOTAL			2	2		0	1	0	0	0	0	0	0	0	1	0	0

Section V—Space Needs Program

3. Maintenance Shops Program

C. Space Needs

2. Detailed Vehicle Inventory

			Existing Vehicle Quantity	2010 Vehicle Quantity	Preferred Parking Method	Vehicle Parking Analysis											
						Parking Sizes: S=8x10 Standard=10x20 M=12x30 L=12x40											
Department	Size	Type			(E,C,H)	Exterior (E))				Covered (C)				Heated (H)			
						S	Stan	M	L	S	Stan	M	L	S	Stan	M	L
TEF																	
	ST	Sedan; Compact; Gas-Electric Hybrid	1	1	E	0	1	0	0	0	0	0	0	0	0	0	0
	L	Grove Crane	1	1	C	0	0	0	0	0	0	0	1	0	0	0	0
	L	Tractor; Dock Bull	1	1	E	0	0	0	1	0	0	0	0	0	0	0	0
SUBTOTAL			3	3		0	1	0	1	0	0	0	1	0	0	0	0
TOTAL FOR ALL DEPARTMENTS			156	184		12	105	28	8	1	8	6	11	3	1	0	1

Section V—Space Needs Program
3. Maintenance Shops Program
C. Space Needs
3. Preferred Program Enhancements

3. Preferred Program Enhancements

When possible, Proposers are encouraged to exceed the basic requirements of this RFP and will receive credit for any enhancements to the project that go beyond the basic, detailed Space Needs Program. As guidance, the State provides the following listing of enhancements it would like to be considered should the Design-Build Teams choose to provide them as part of the Project.

a. Costs not to Exceed MADCC: The costs for including of any of these enhancements must not cause the Proposal to exceed the total project MADCC.

b. Priority List of Preferred Enhancements: Listed in priority order (must be proposed in this order):

i. Mezzanine Storage areas within shops: If mezzanine storage is not provided in the Proposal, then consider design solutions that will allow for future construction. The following shops should include mezzanines if possible:

- TEF Radio Shop
- Signals Shop
- Bridge Maintenance Shop
- Trades Shop

ii. Increase Shop Space: Add the following space if possible:

- | | |
|-----------------------------------------|----------|
| • TEF Equipment: Heavy Duty Repair Bays | 1,000 SF |
| • TEF Radio | 541 SF |
| • TEF Equipment: Light Duty Repair Bays | 280 SF |
| • Welding/Fabrication | 1,000 SF |
| • Bridge | 800 SF |
| • Grove Crane | 480 SF |

iii. Covered Storage for Buttons Shop 220 SF

iv. Covered Parking: Add covered parking for the following sizes if possible:

- | | |
|---------------------|--------|
| • Four 10x20 spaces | 800 SF |
| • One 12x30 space | 360 SF |
| • Two 12x40 spaces | 960 SF |
| • Three 8x10 spaces | 240 SF |

Section V—Space Needs Program

3. Maintenance Shops Program

C. Space Needs

3. Preferred Program Enhancements

• One 10x20 space	200 SF
• One 10x28 space	280 SF
• Three 12x40 spaces	1,440 SF
• One 12x40 space	480 SF
• One 12x30 space	360 SF
• One 12x40 space	480 SF
• Three 12x40 spaces	1,440 SF

Section V—Space Needs Program

3. Maintenance Shops Program

D. Relationships

D. Relationships:

During the Design Charrette a number of possible shops layouts were explored, analyzed, and refined. In general, the solutions favored two separate shop buildings.

1) Example Shop Facility Layouts:

Example Diagrams Show Relationships: The diagrams below are included in this RFP to provide useful background information to the Proposer about the relationships between maintenance shops activities. During the Design Charrette, many similar diagrams were developed and discussed by the State's staff. Both affirmative and negative comments were recorded and are included in the detailed report from Maintenance Design Group included as attachment Section VII –2B.

- **Non-Constraint:** *These example layouts are included for information only and should not constrain the Proposer to any specific design.* They are only provided here to illustrate the potential relationships between the various shops. During the selection process, credit will be given to innovative and efficient solutions to the State's needs. The State expects to receive proposals that exceed the quality and efficiency of the diagrams included below.

1) Example Shops Layouts

Example Layout--Equipment Building



Section V—Space Needs Program

3. Maintenance Shops Program

D. Relationships

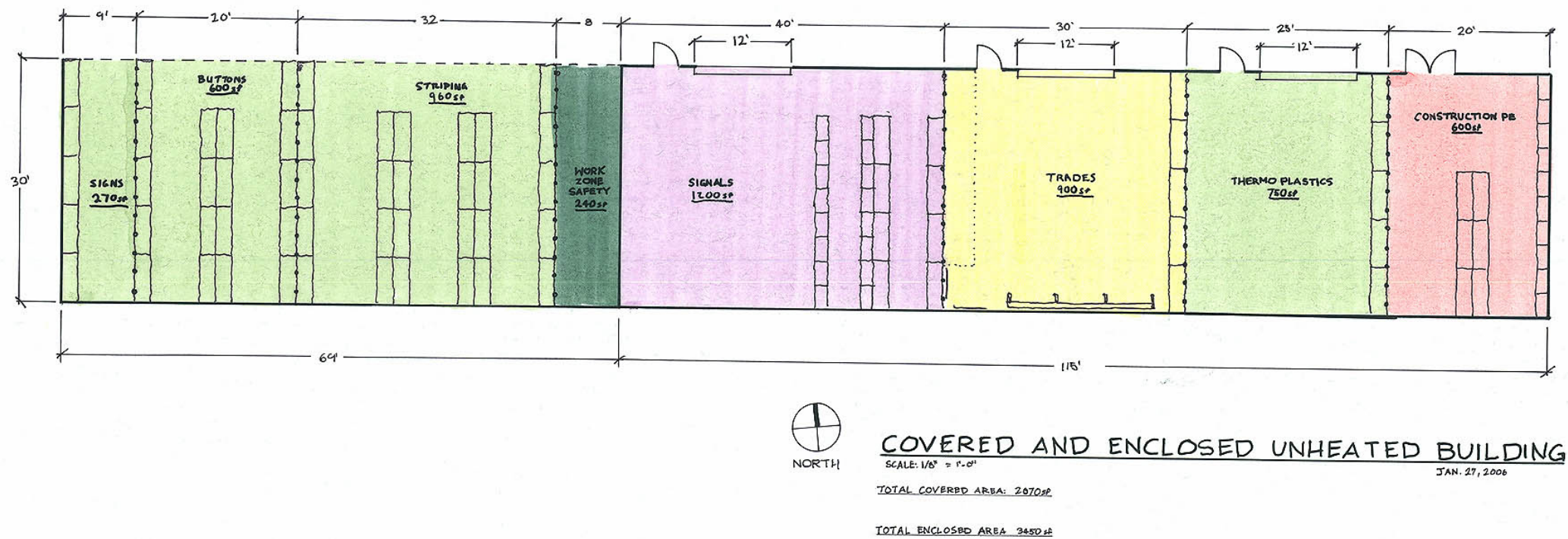
1) Example Shops Layouts

Example Layout--Shops Building



Section V—Space Needs Program
3. Maintenance Shops Program
D. Relationships
1) Example Shops Layouts

Example Layout—Covered and Enclosed Unheated Building



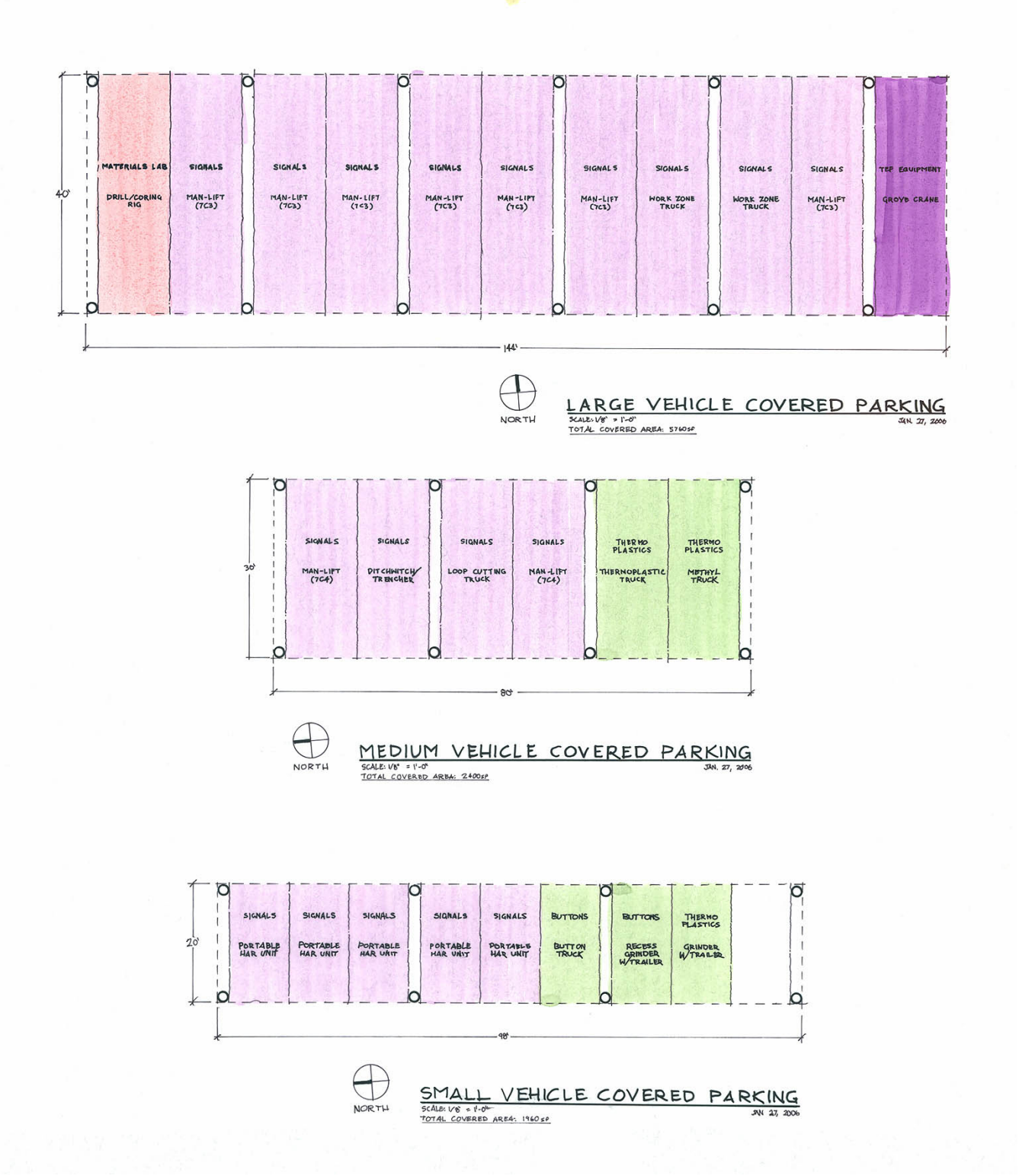
Section V—Space Needs Program

3. Maintenance Shops Program

D. Relationships

1) Example Shops Layouts

Example Layout—Covered Parking



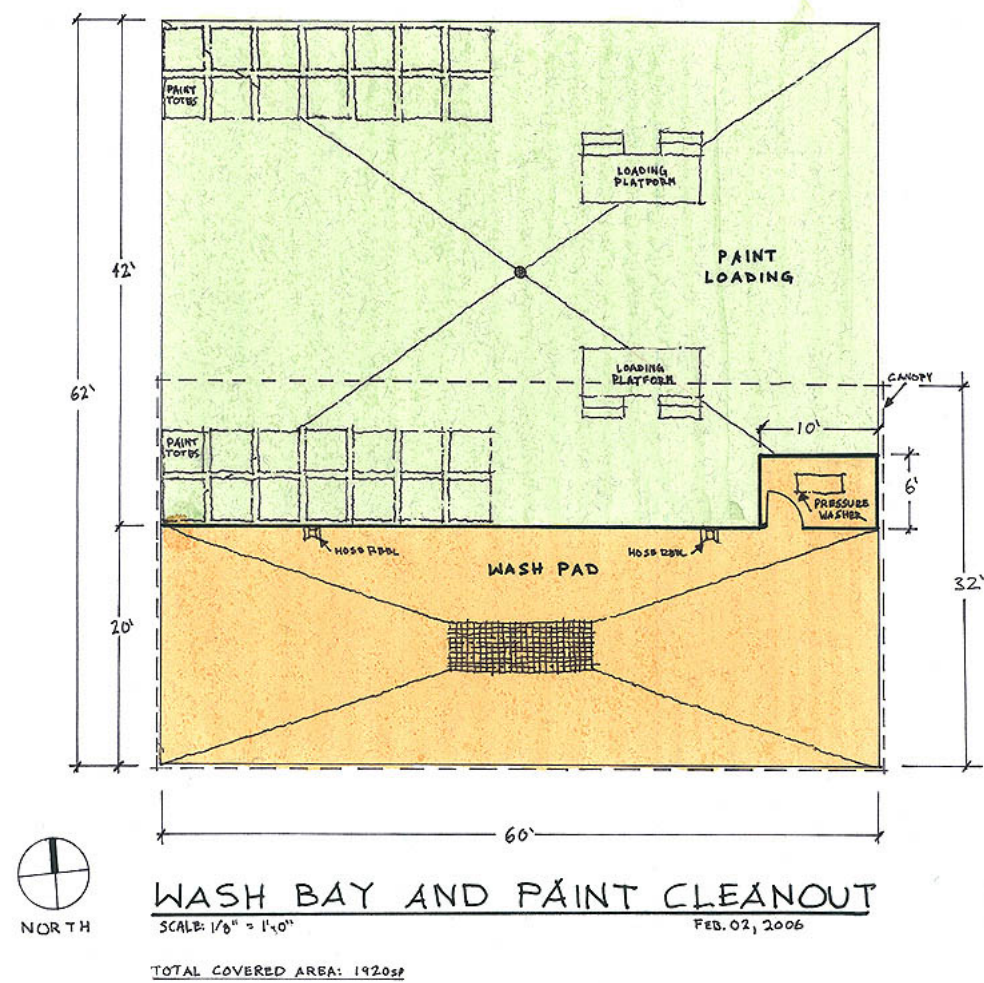
Section V—Space Needs Program

3. Maintenance Shops Program

D. Relationships

1) Example Shops Layouts

Example Layout—Wash Bay and Paint Cleanout Building



Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

E. Typical Spaces: Physical and Environmental Requirements

This Physical and Environmental Design Criteria for the proposed Olympic Region Headquarters Complex provide both micro-level and macro-level design requirements for the spaces identified for the Facility. The Physical and Environmental Design Criteria format found in this chapter consists of Functional Area Modules. The Functional Area Module represents a detailed description of specific design issues for each of the areas listed in the Space Needs Program. Olympic Region Headquarters Complex office and crew area modules represent specific finishes and furniture layouts for the appropriate square footage. WSDOT Materials Lab, Trades, Signals, Signs, Buttons, Thermo Plastics, Work Zone Safety, TEF Radio, Bridge, Central Stores, and TEF Equipment Maintenance modules list and illustrate appropriate finishes, equipment, and functions required.

- **Non-Constraint:** *These example modules and related equipment are included for information only and should not constrain the Proposer to any specific design.* They are only provided here to illustrate the potential relationships within the various spaces. During the selection process, credit will be given to innovative and efficient solutions to the State's needs.
- **Office/Crew Area Modules:** The requirements found above in *Space Needs* (Section V—3.C) are defined graphically on the following pages and are applied to each office area within each group. These are only typical modules and can be modified to meet unique circumstances.
- **Shop Facility Modules:** Each of the Maintenance Shops Facility modules contains information regarding the function of the space, affinities, critical dimension (if any), equipment, furnishings, and finishes related to this operation. Technical considerations for architectural, structural, mechanical, plumbing, and electrical systems are also delineated. Where appropriate, example layouts of the spaces are graphically illustrated. As part of the Contract, the Design-Build Team will provide specific layouts and detailed equipment lists for each area. Note that the equipment and furnishings listed are not intended to be all-inclusive. A listing of the abbreviations utilized in the text is listed below.
- **Abbreviations:**

A	=	Amperes
AFF	=	Above Finished Floor
fc	=	Foot Candles
GFI	=	Ground Fault Interrupter
GO	=	Gear Oil
HO	=	Hydraulic Oil
WO	=	Waste Oil
K	=	1,000 Pounds
lb	=	Pound
CNG	=	Compressed Natural Gas

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

NG	=	Natural Gas
PSI	=	Pounds per Square Inch
SF	=	Square Feet
VAC	=	Volts AC
VCT	=	Vinyl composite tile
W	=	Water

Section V—Space Needs Program

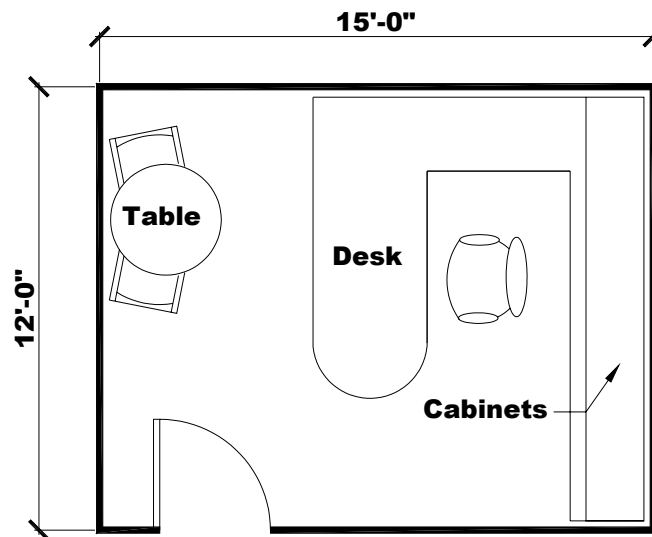
3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

1) Typical Private Offices:

a. Module A - 150-Square-Foot Private Office

- i. **Function:** Enclosed private office
- ii. **Relationship to Other Areas:** Case specific
- iii. **Critical Dimensions:** 8'-6" vertical clearance
- iv. **Equipment/Furnishings:** Chair, built-in desk and counter space, upper-level built-in cabinets, two guest chairs with small round table, below-counter lateral file.
- v. **Design Features:**
 - Carpet floor covering (*Office areas*) or VCT floor covering (*Shop areas*)
 - Acrylic latex-painted metal stud/gypsum board walls
 - Suspended tile ceiling
 - Voice/data: 3 universal jacks (CAT6—See WSDOT Cable Stds)
 - Fluorescent lighting, 50 fc at desk top
 - General purpose duplex receptacles, 120 VAC, 20 A
 - Heating to 70 degrees, cooling to 75 degrees
 - Secured entry, single 3'-0" door



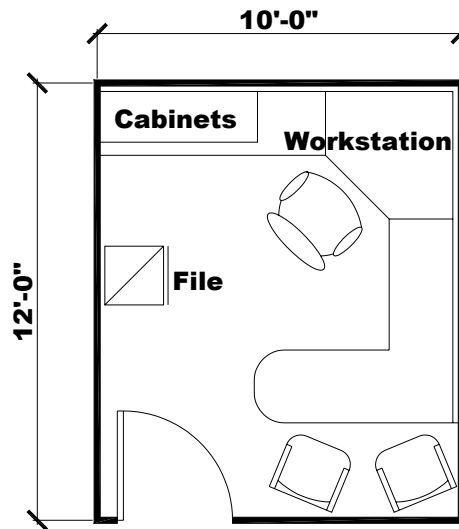
Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

b. Module B - 120-Square-Foot Private Office

- i. **Function:** Enclosed private office
- ii. **Relationship to Other Areas:** Case specific
- iii. **Critical Dimensions:** 8'-6" vertical clearance
- iv. **Equipment/Furnishings:** Chair, built-in desk and counter space, upper-level built-in cabinets, two guest chairs, lateral file
- v. **Design Features**
 - Carpet floor covering (*Office areas*) or VCT floor covering (*Shop areas*)
 - Acrylic latex-painted metal stud/gypsum board walls
 - Suspended tile ceiling
 - Voice/data: 3 universal jacks (CAT6—See WSDOT Cable Stds)
 - Fluorescent lighting, 50 fc at desk top
 - General purpose duplex receptacles, 120 VAC, 20 A
 - Heating to 70 degrees, cooling to 75 degrees
 - Secured entry, single 3'-0" door



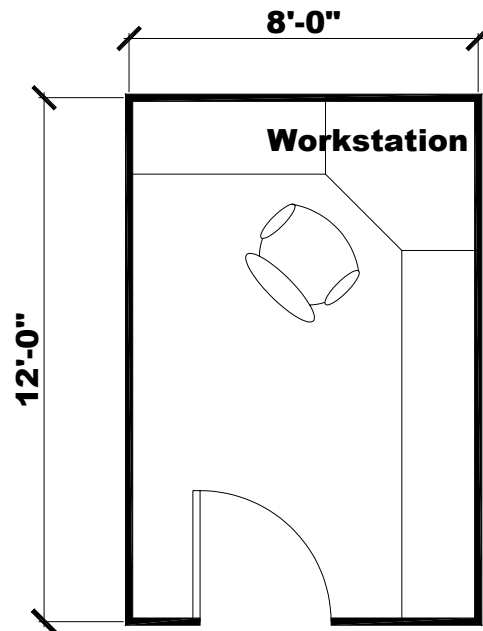
Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

c. Module C - 96-Square-Foot Office

- i. **Function:** Private office
- ii. **Relationship to Other Areas:** Case specific
- iii. **Critical Dimensions:** 8'-6" vertical clearance
- iv. **Equipment/Furnishings:** Task chair, 24" work surfaces, 42" x 42" corner work surface, under-surface vertical file
- v. **Design Features:**
 - Carpet floor covering (*Office areas*) or VCT floor covering (*Shop areas*)
 - Acrylic latex-painted metal stud/gypsum board walls (*Office areas*) or enamel painted masonry walls (*Shop areas*)
 - Suspended tile ceiling
 - Systems furniture
 - Voice/data: 3 universal jacks (CAT6—See WSDOT Cable Stds)
 - Fluorescent lighting, 50 fc at desk top
 - General purpose duplex receptacles, 120 VAC, 20 A
 - Heating to 70 degrees, cooling to 75 degrees



Section V—Space Needs Program

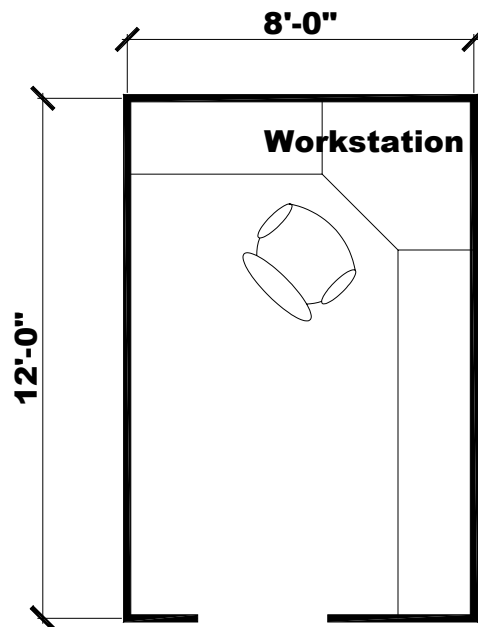
3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

2) Typical Workstations:

a. Module D - 96-Square-Foot Workstation

- i. **Function:** Open office workstation
- ii. **Relationship to Other Areas:** Case specific
- iii. **Critical Dimensions:** 8'-6" vertical clearance
- iv. **Equipment/Furnishings:** Task chair, 24" work surfaces, 42" x 42" corner work surface, under surface vertical file
- v. **Design Features:**
 - Carpet floor covering (*Office areas*) or VCT floor covering (*Shop areas*)
 - Acrylic latex-painted metal stud/gypsum board walls (*Office areas*) or enamel painted masonry walls (*Shop areas*)
 - Suspended tile ceiling
 - Systems furniture
 - Voice/data: 3 universal jacks (CAT6—See WSDOT Cable Stds)
 - Fluorescent lighting, 50 fc at desk top
 - General purpose duplex receptacles, 120 VAC, 20 A
 - Heating to 70 degrees, cooling to 75 degrees



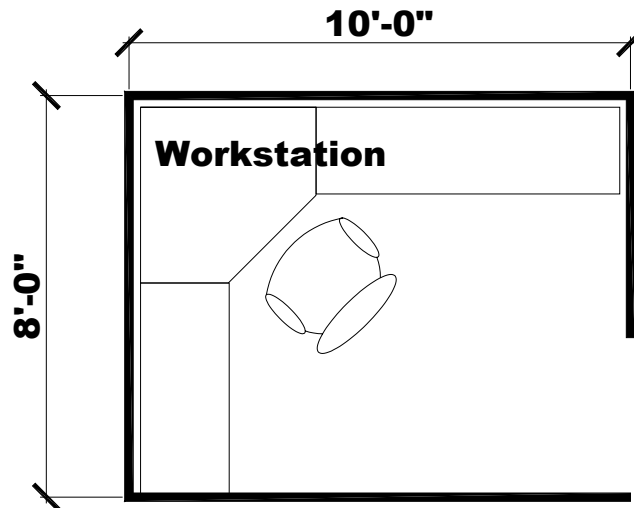
Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

b. Module E - 80-Square-Foot Workstation

- i. **Function:** Open office workstation
- ii. **Relationship to Other Areas:** Case specific
- iii. **Critical Dimensions:** 8'-6" vertical clearance
- iv. **Equipment/Furnishings:** Task chair, 24" work surfaces, 42" x 42" corner work surface, under surface vertical file
- v. **Design Features:**
 - Carpet floor covering (*Office areas*) or VCT floor covering (*Shop areas*)
 - Acrylic latex-painted metal stud/gypsum board walls (*Office areas*) or enamel painted masonry walls (*Shop areas*)
 - Suspended tile ceiling
 - Systems furniture
 - Voice/data: 3 universal jacks (CAT6—See WSDOT Cable Stds)
 - Fluorescent lighting, 50 fc at desk top
 - General purpose duplex receptacles, 120 VAC, 20 A
 - Heating to 70 degrees, cooling to 75 degrees



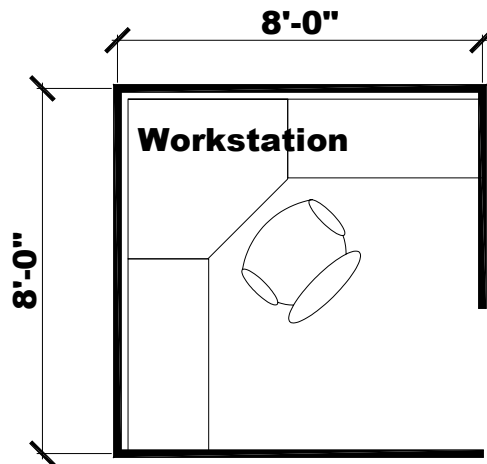
Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

c. Module F - 64-Square-Foot Workstation

- i. **Function:** Open office workstation
- ii. **Relationship to Other Areas:** Case specific
- iii. **Critical Dimensions:** 8'-6" vertical clearance
- iv. **Equipment/Furnishings:** Task chair, 24" work surfaces, 42" x 42" corner work surface, under-surface vertical file
- v. **Design Features:**
 - Carpet floor covering (*Office areas*) or VCT floor covering (*Shop areas*)
 - Acrylic latex-painted metal stud/gypsum board walls (*Office areas*) or enamel painted masonry walls (*Shop areas*)
 - Suspended tile ceiling
 - Systems furniture
 - Voice/data: 3 universal jacks (CAT6—See WSDOT Cable Stds)
 - Fluorescent lighting, 50 fc at desk top
 - General purpose duplex receptacles, 120 VAC, 20 A
 - Heating to 70 degrees, cooling to 75 degrees



Section V—Space Needs Program

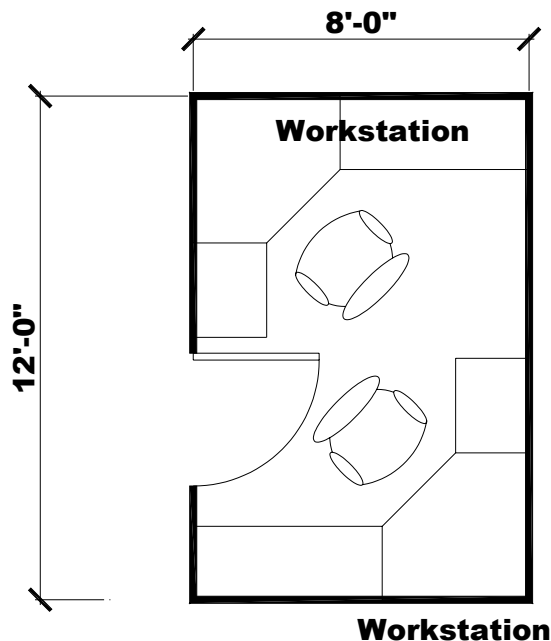
3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

3) Typical Shared Offices:

a. Module G - 96-Square-Foot Shared Office

- i. **Function:** Shared office
- ii. **Relationship to Other Areas:** Case specific
- iii. **Critical Dimensions:** 8'-6" vertical clearance
- iv. **Equipment/Furnishings:** Task chair, 24" work surfaces, 42" x 42" corner work surface, under-surface vertical file at each station.
- v. **Design Features:**
 - Carpet floor covering (*Office areas*) or VCT floor covering (*Shop areas*)
 - Acrylic latex-painted metal stud/gypsum board walls (*Office areas*) or enamel painted masonry walls (*Shop areas*)
 - Suspended tile ceiling
 - Systems furniture
 - Voice/data: 3 universal jacks (CAT6—See WSDOT Cable Stds)
 - Fluorescent lighting, 50 fc at desk top
 - General purpose duplex receptacles, 120 VAC, 20 A
 - Heating to 70 degrees, cooling to 75 degrees



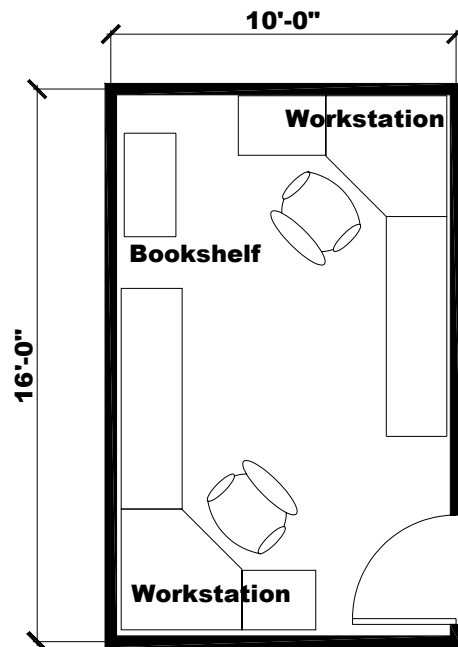
Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

b. Module H - 160-Square-Foot Shared Office

- i. **Function:** Shared office
- ii. **Relationship to Other Areas:** Case specific
- iii. **Critical Dimensions:** 8'-6" vertical clearance
- iv. **Equipment/Furnishings:** Task chair, 24" work surfaces, 42" x 42" corner work surface, under-surface vertical file at each station
- v. **Design Features:**
 - Carpet floor covering (*Office areas*) or VCT floor covering (*Shop areas*)
 - Acrylic latex-painted metal stud/gypsum board walls (*Office areas*) or enamel painted masonry walls (*Shop areas*)
 - Suspended tile ceiling
 - Systems furniture
 - Voice/data: 3 universal jacks (CAT6—See WSDOT Cable Stds)
 - Fluorescent lighting, 50 fc at desk top
 - General purpose duplex receptacles, 120 VAC, 20 A
 - Heating to 70 degrees, cooling to 75 degrees



Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

4) Materials Lab Areas:

(Refer to the Office Modules)

- a. **Region Materials Engineer - *Module A***
 - i. Adjacent to Assistant Materials Engineer
- b. **Assistant Materials Engineer - *Module B***
 - i. Adjacent to Region Materials Engineer
- c. **Secretary - *Similar to Module E with an open wall adjacent to hallway***
 - i. Adjacent to Region Materials Engineer
- d. **Lab Supervisor - *Similar to Module H***
 - i. Adjacent to Sample Receiving Area
- e. **Soils/Pavement Engineer - *Module B***
 - i. Adjacent to Assistant Materials Engineer
- f. **IA Inspector - *Similar to Module H***
 - i. Adjacent to Assistant Materials Engineer
- g. **Assistant IA Inspector - *Similar to Module H***
 - i. Adjacent to Assistant Materials Engineer
- h. **Lab Technician - *Module H***
 - i. Adjacent to Sample Receiving Area
- i. **Copy/Fax/Work Area**
 - i. **Function:** Dedicated area or alcove for copier, fax machine, printer, and storage of a small amount of office supplies
 - ii. **Relationship to Other Areas:** Access to Administrative areas
 - iii. **Equipment/Furnishings:** Copier, fax machine, computer printer, 6' x 3' work surface, shelving.
 - iv. **Design Features:**
 - Carpet or VCT floor covering
 - Acrylic latex-painted metal stud/gypsum board walls
 - Suspended tile ceiling
 - Voice/data: 3 universal jacks (CAT6—See WSDOT Cable Stds)
 - Fluorescent lighting
 - Heating to 70 degrees, cooling to 75 degrees
 - General purpose duplex receptacles, 120 VAC, 20 A

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

j. File Storage

- i. **Function:** Administration file storage that provides flexibility to be converted into an office in the future
- ii. **Relationship to Other Areas:** Adjacent to the Administration offices and other storage rooms
- iii. **Design Features:**
 - VCT floor covering
 - Enamel painted masonry walls
 - Suspended ceiling tiles
 - Computer and telephone receptacles
 - Heating to 70 degrees, cooling to 75 degrees
 - General purpose duplex receptacles, 120 VAC, 20 A

k. Sample Receiving Area

- i. **Function:** Central entrance for customers and vendors to bring material samples to the Materials Lab
- ii. **Relationship to Other Areas:**
 - Limited customer access to the facility
 - Adjacent to Lab Office
 - Adjacent to Aggregate Breakdown Room
 - Access to Materials Lab testing areas
- iii. **Equipment/Furnishings:**
 - Stainless steel counter 36" deep with drawers and cabinet storage below
- iv. **Design Features:**
 - Concrete floor
 - Acrylic latex-painted metal stud/gypsum board walls or enamel painted masonry walls
 - Suspended ceiling tiles
 - Heating to 70 degrees, cooling to 75 degrees

l. Waste Material Bin Storage (Outside)

- i. **Function:** Exterior storage area to store bulk material bins for used material samples to be recycled from the Materials Lab
- ii. **Relationship to Other Areas:**
 - Adjacent to Aggregate Breakdown Room
 - Access from sample storage room
- iii. **Equipment/Furnishings:** Two three-cubic-yard waste bulk material bins for used samples
- iv. **Design Features:**
 - Concrete pad
 - Access to move bins with fork lift

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

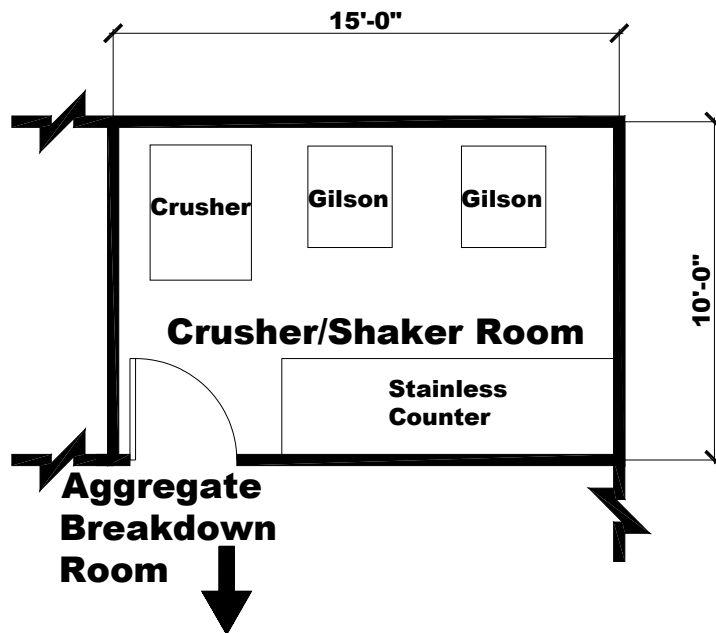
m. Crusher/Shaker Room

- i. **Function:** Designated room where aggregate is shaken and sifted to meet testing criteria
- ii. **Relationship to Other Areas:** Adjacent to the Aggregate Breakdown Room
- iii. **Critical Dimensions:** 10'-0" vertical clearance
- iv. **Equipment/Furnishings:**
 - Two Gilson Shakers, crusher (220 VAC) (*State supplied*)
 - Stainless steel counter 36" deep with drawers and cabinet storage below
- v. **Comments:**
 - Acoustically and physically separated from other areas to prevent migration of noise and dust
 - Provide dust collection to each shaker and crusher equipment in room
- vi. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water resistant concrete with chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant (gypsum)
 - Ceiling: Painted exposed structure
 - Doors: Personnel doors with view panels to meet applicable code exit requirements
- vii. **Structural:**
 - Control joints in floor slab at adequate spacing
- viii. **Mechanical:**
 - Heating to 70 degrees, cooling to 75 degrees
 - Dust collector to shaker and crusher equipment
 - As required by equipment
- ix. **Plumbing:**
 - Compressed air line with cut-off valve, regulator with gauge, and quick disconnect at 4'-0" AFF; provide disconnects for 1/2" impact tools at bench locations
 - As required by equipment
- x. **Electrical:**
 - Lighting
 - Fluorescent, 50 fc at bench top level
 - Power
 - General purpose duplex receptacles, 120 VAC, 20 A, on walls at 3'-6" AFF
 - As required by equipment

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements



xi. Typical Crusher/Shaker Room

n. Small Shaker Room

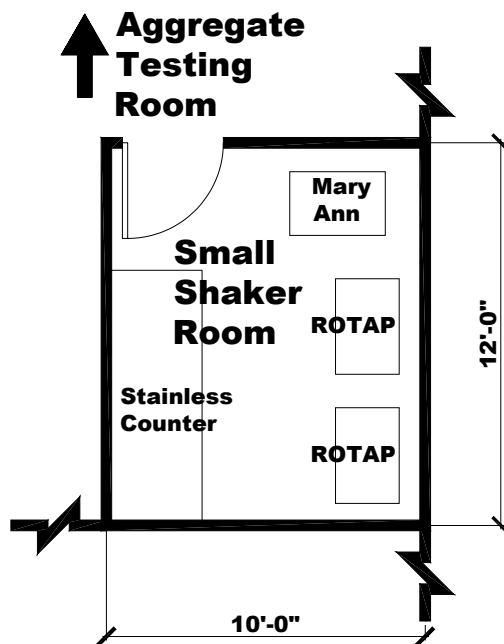
- i. **Function:** Designated room where aggregate is shaken and sifted to meet testing criteria
- ii. **Relationship to Other Areas:**
 - Adjacent to the Aggregate Testing Room
- iii. **Critical Dimensions:** 10'-0" vertical clearance
- iv. **Equipment/Furnishings:**
 - Two Ro-tap Shakers and Mary Ann Shaker (*State supplied*)
 - Stainless steel counter 36" deep with drawers and cabinet storage below
- v. **Comments:**
 - Acoustically and physically separated from other areas to prevent migration of noise and dust
- vi. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water resistant concrete with chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant (gypsum)
 - Ceiling: Painted exposed structure
 - Doors: Personnel doors with view panels to meet applicable code exit requirements
- vii. **Structural:**

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- Control joints in floor slab at adequate spacing
- viii. Mechanical:**
 - Heating to 70 degrees, cooling to 75 degrees
 - As required by equipment
- ix. Plumbing:**
 - Compressed air line with cut-off valve, regulator with gauge, and quick disconnect at 4'-0" AFF; provide disconnects for 1/2" impact tools at bench locations
 - As required by equipment
- x. Electrical:**
 - Lighting
 - Fluorescent, 50 fc at bench top level
 - Power
 - General purpose duplex receptacles, 120 VAC, 20 A, on walls at 3'-6" AFF
 - As required by equipment



xi. Typical Small Shaker Room Layout

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

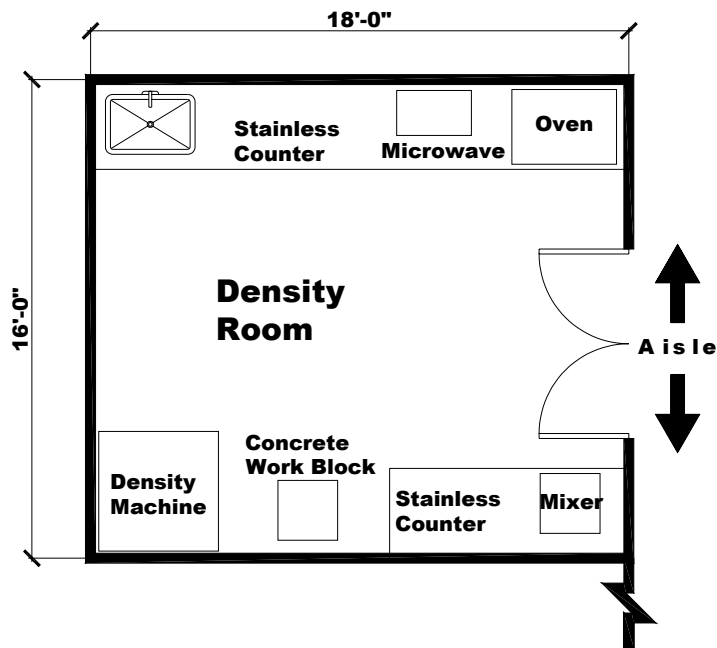
o. Density Room

- i. **Function:** Designated room where material is tested for density
- ii. **Relationship to Other Areas:** Access to the Receiving Area
- iii. **Critical Dimensions:** 10'-0" vertical clearance
- iv. **Equipment/Furnishings:**
 - Density machine, microwave, oven (220 VAC), mixer (*State supplied*)
 - Stainless steel counter 36" deep with drawers and cabinet storage below
 - 2' x 3' x 16" built-in stainless steel sink drained to exterior sump with eyewash
- v. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water resistant concrete with chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant (gypsum)
 - Ceiling: Painted exposed structure
 - Doors: Double 3'-0" door with view panels to meet applicable code exit requirements
- vi. **Structural:**
 - Control joints in floor slab at adequate spacing
- vii. **Mechanical:**
 - Heating to 70 degrees, cooling to 75 degrees
 - As required by equipment
- viii. **Plumbing:**
 - Water to sinks (hot and cold)
 - Drain from sinks with filter and cleanout to prevent fine sediment from clogging drain pipe
 - Compressed air line with cut-off valve, regulator with gauge, and quick disconnect at 4'-0" AFF; provide disconnects for 1/2" impact tools at bench locations
 - As required by equipment
- ix. **Electrical:**
 - Lighting
 - Fluorescent, 50 fc at bench top level
 - Power
 - General purpose duplex receptacles, 120 VAC, 20 A, on walls at 3'-6" AFF
 - As required by equipment
 - Communications
 - Voice/data: 1 universal jack (CAT6—See WSDOT Cable Stds)

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements



x. *Typical Density Room Layout*

p. Aggregate Breakdown Room

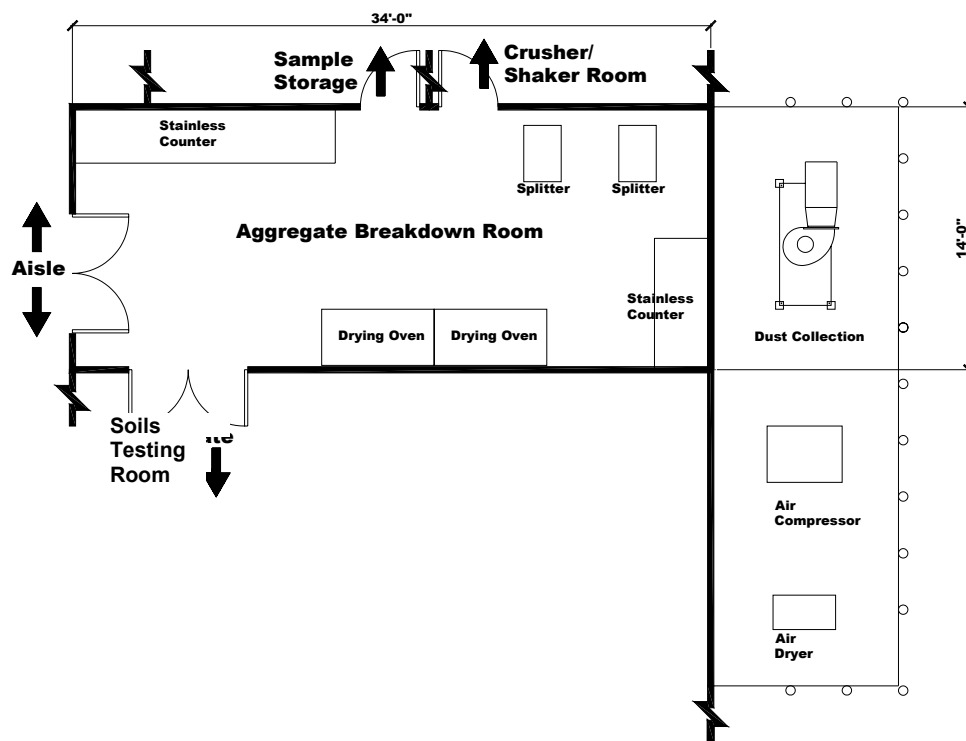
- i. **Function:** Designated room for initial aggregate breakdown.
- ii. **Relationship to Other Areas:** Access to the Receiving Area
- iii. **Critical Dimensions:** 10'-0" vertical clearance
- iv. **Equipment/Furnishings:**
 - Two ovens (220 VAC), two splitters (*State supplied*)
 - Stainless steel counter 36" deep with drawers and cabinet storage below
- v. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water resistant concrete with chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant (gypsum)
 - Ceiling: Painted exposed structure
 - Doors: Double 3'-0" door with view panels to meet applicable code exit requirements
- vi. **Structural:**
 - Control joints in floor slab at adequate spacing
- vii. **Mechanical:**
 - Heating to 70 degrees, cooling to 75 degrees

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- As required by equipment
- viii. Plumbing:**
 - Compressed air line with cut-off valve, regulator with gauge, and quick disconnect at 4'-0" AFF; provide disconnects for 1/2" impact tools at bench locations
 - As required by equipment
- ix. Electrical:**
 - Lighting
 - Fluorescent, 50 fc at bench top level
 - Power
 - General purpose duplex receptacles, 120 VAC, 20 A, on walls at 3'-6" AFF
 - As required by equipment
 - Communications
 - Voice/data: 1 universal jack (CAT6—See WSDOT Cable Stds)



x. *Typical Aggregate Breakdown Room*

q. Soils Testing Room

- i. **Function:** Designated room for general soils testing
- ii. **Relationship to Other Areas:**
 - Access to the Receiving Area

Section V—Space Needs Program

3. Maintenance Shops Program

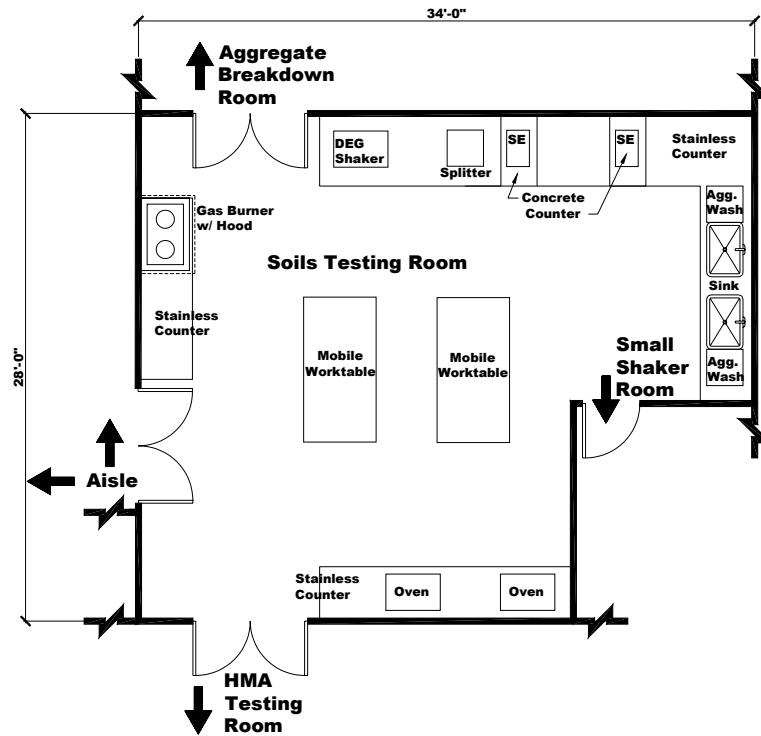
E. Typical Spaces: Physical and Environmental Requirements

- Adjacent to Aggregate Breakdown Room and HMA Testing Room
- iii. **Critical Dimensions:** 10'-0" vertical clearance
- iv. **Equipment/Furnishings:**
 - Degrading shaker, two SE Shakers, two aggregate washers, gas burner, two ovens (220 VAC), two mobile work tables 4' x 8' (*state supplied*)
 - Stainless steel counter 36" deep with drawers and cabinet storage below
 - Two 2' x 3' x 16" built-in stainless steel sink drained to exterior sump with eyewash
- v. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water resistant concrete with chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant (gypsum)
 - Ceiling: Painted exposed structure
 - Doors: Double 3'-0" door with view panels to meet applicable code exit requirements
- vi. **Structural:**
 - Control joints in floor slab at adequate spacing
- vii. **Mechanical:**
 - Heating to 70 degrees, cooling to 75 degrees
 - Vent hood for gas burner
 - As required by equipment
- viii. **Plumbing:**
 - Water to sinks (hot and cold)
 - Drain from sinks with filter and cleanout to prevent fine sediment from clogging drain pipe
 - Compressed air line with cut-off valve, regulator with gauge, and quick disconnect at 4'-0" AFF; provide disconnects for 1/2" impact tools at bench locations
 - Natural gas to gas burner
 - As required by equipment
- ix. **Electrical:**
 - Lighting
 - Fluorescent, 50 fc at bench top level
 - Power
 - General purpose duplex receptacles, 120 VAC, 20 A, on walls at 3'-6" AFF
 - As required by equipment
 - Communications
 - Voice/data: 2 universal jacks at bench (CAT6—See WSDOT Cable Stds)

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements



a. Typical Soils Testing Room Layout

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

r. **HMA Testing Room**

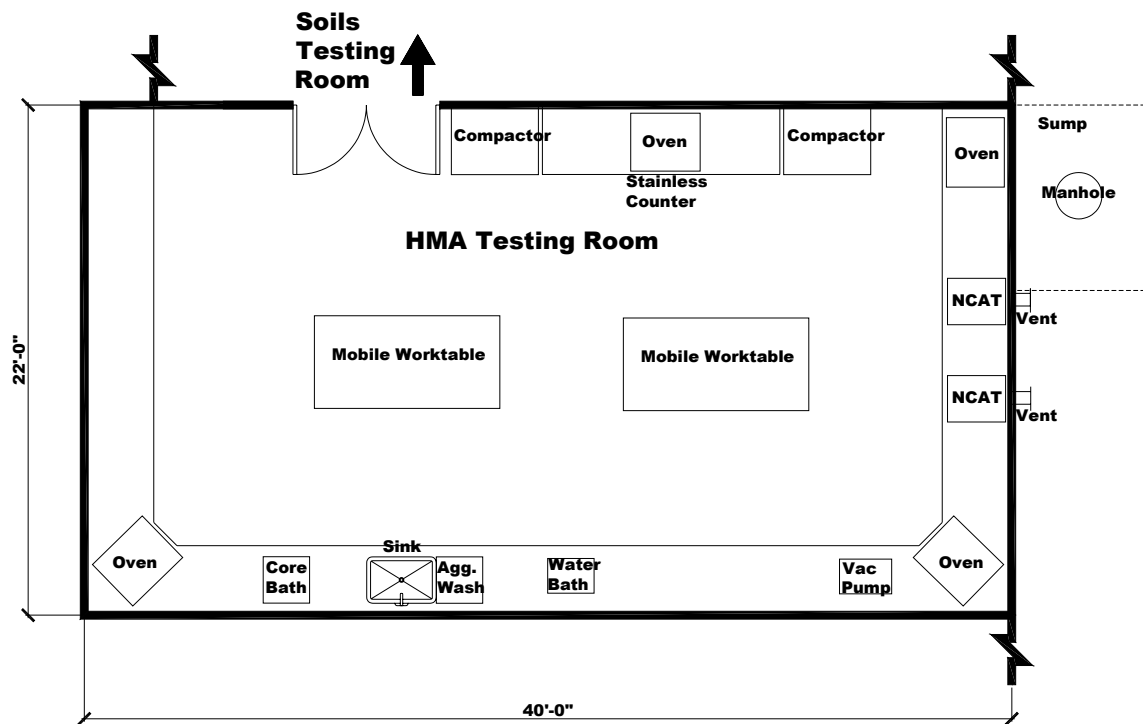
- i. **Function:** Designated room where asphalt material is tested
- ii. **Relationship to Other Areas:**
 - Access to the Receiving Area
 - Adjacent to Soils Testing Room
- iii. **Critical Dimensions:** 10'-0" vertical clearance
- iv. **Equipment/Furnishings:**
 - Two Gyratory Compactors, four ovens (220 VAC), two NCAT Furnaces (220 VAC), vacuum pump, water bath, aggregate washer, two mobile work tables 4' x 8' (*state supplied*)
 - Stainless steel counter 36" deep with drawers and cabinet storage below
 - 2' x 3' x 16" built-in stainless steel sink drained to exterior sump with eyewash
- v. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water resistant concrete with chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant (gypsum)
 - Ceiling: Painted exposed structure
 - Doors: Double 3'-0" door with view panels to meet applicable code exit requirements
- vi. **Structural:**
 - Control joints in floor slab at adequate spacing
- vii. **Mechanical:**
 - Heating to 70 degrees, cooling to 75 degrees
 - Ventilation for NCAT furnaces through the wall
 - As required by equipment
- viii. **Plumbing:**
 - Water to sinks (hot and cold)
 - Drain from sinks with filter and cleanout to prevent fine sediment from clogging drain pipe
 - Compressed air line with cut-off valve, regulator with gauge, and quick disconnect at 4'-0" AFF; provide disconnects for 1/2" impact tools at bench locations
 - As required by equipment
- ix. **Electrical:**
 - Lighting
 - Fluorescent, 50 fc at bench top level
 - Power
 - General purpose duplex receptacles, 120 VAC, 20 A, on walls at 3'-6" AFF
 - As required by equipment

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- Communications
 - Voice/data: 2 universal jacks at bench (CAT6—See WSDOT Cable Stds)



Typical HMA Testing Room Layout

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

s. Equipment Storage/Maintenance

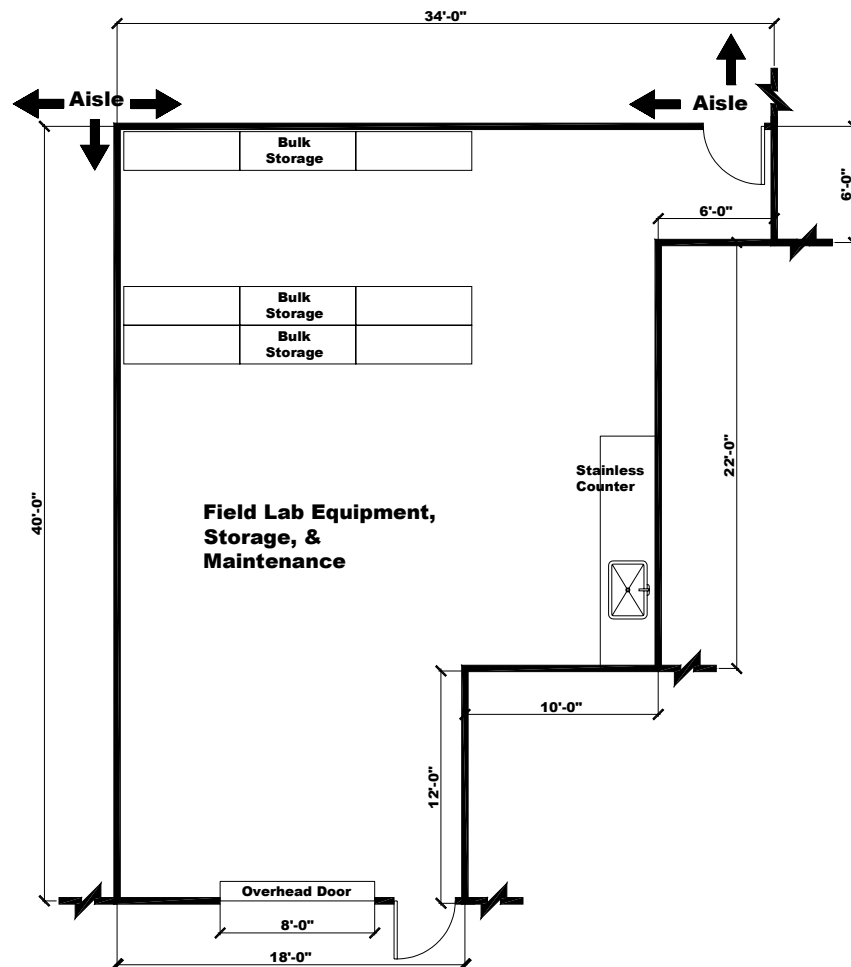
- i. **Function:** Designated room where asphalt material is tested for compaction levels
- ii. **Relationship to Other Areas:**
 - Access to the Receiving Area
 - Adjacent to Soils Testing Room
- iii. **Critical Dimensions:** 12'-0" vertical clearance
- iv. **Equipment/Furnishings**
 - Grinder, bulk storage racks (8' high)
 - Stainless steel counter 36" deep with drawers and cabinet storage below
 - 2' x 3' x 16" built-in stainless steel sink drained to exterior sump with eyewash
- v. **Architectural**
 - Finishes
 - Floor: Soil, grease, water resistant concrete with chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant (gypsum)
 - Ceiling: Painted exposed structure
 - Doors
 - Exterior overhead door: High-lifting sectional, steel, insulated, 8' x 10', with view panels, automatic operator, and interior and exterior push button controls
 - Personnel doors with view panels to meet applicable code exit requirements
- vi. **Structural**
 - Control joints in floor slab at adequate spacing
- vii. **Mechanical**
 - Heated to 70 degrees
 - As required by equipment
- viii. **Plumbing**
 - Water to sinks (hot and cold)
 - Drain from sinks with filter and cleanout to prevent fine sediment from clogging drain pipe
 - Compressed air line with cut-off valve, regulator with gauge, and quick disconnect at 4'-0" AFF; provide disconnects for 1/2" impact tools at bench locations
 - As required by equipment
- ix. **Electrical**
 - Lighting
 - Fluorescent, 50 fc at bench top level
 - Power

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- General purpose duplex receptacles, 120 VAC, 20 A, on walls at 3'-6" AFF
- As required by equipment
- Communications
 - Voice/data: 1 universal jack (CAT6—See WSDOT Cable Stds)



Typical Lab Equipment, Storage & Maintenance Room Layout

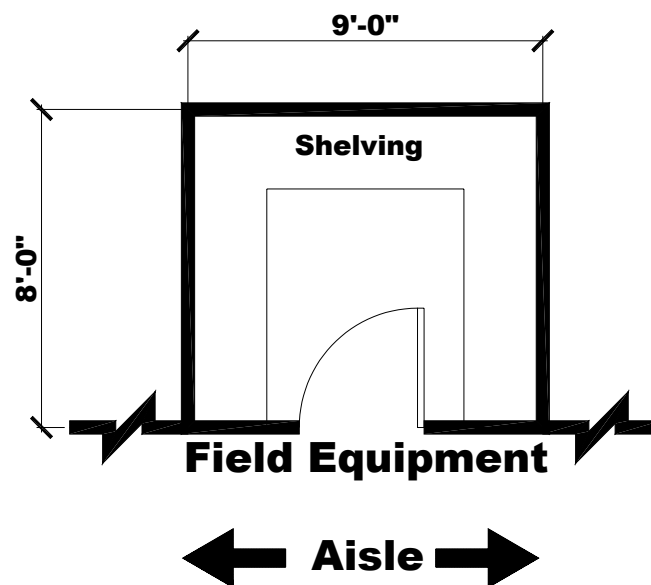
Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

t. Lab Field Storage

- i. **Function:** Secure storage of field equipment
- ii. **Relationship to Other Areas:** Access to the Receiving Area
- iii. **Critical Dimensions:** 8'-0" vertical clearance
- iv. **Equipment/Furnishings:** Bulk storage racks (8' high)
- v. **Architectural**
 - Finishes
 - Floor: Soil, grease, water resistant concrete with chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant (gypsum)
 - Ceiling: Painted exposed structure
 - Doors
 - Personnel doors with view panels to meet applicable code exit requirements
- vi. **Structural**
 - Control joints in floor slab at adequate spacing
- vii. **Mechanical**
 - Cooling to 75 degrees
 - As required by equipment
- viii. **Plumbing**
 - As required by equipment
- ix. **Electrical**
 - Lighting
 - Fluorescent, 30 fc at floor level
 - Power
 - As required by equipment
 - Communications



Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

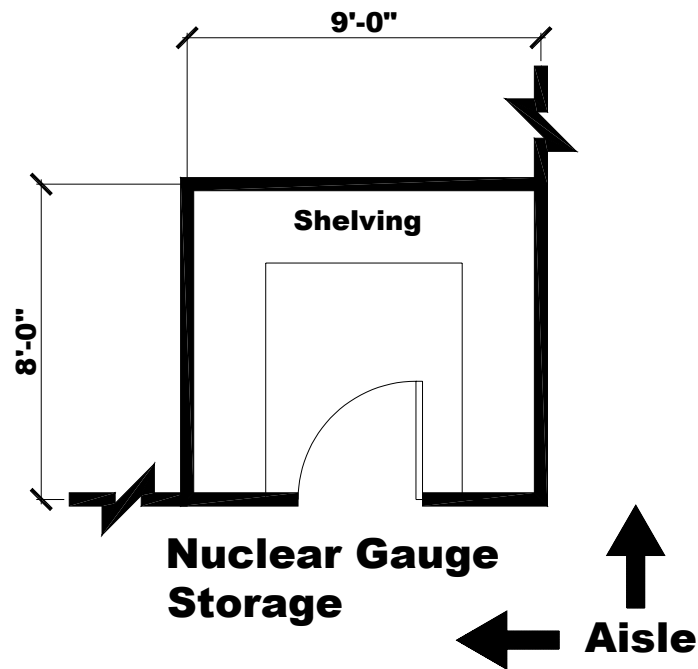
u. Nuclear Gauge Storage

- i. **Function:** Secure storage of nuclear densometer gauges
- ii. **Relationship to Other Areas:** Access to the Receiving Area
- iii. **Critical Dimensions:** 8'-0" vertical clearance
- iv. **Equipment/Furnishings:**
 - Eight Gauge battery chargers
 - Dense wood counter, 24" deep, 36" above the floor
- v. **Comments:**
 - Nuclear gauges must be stored a minimum of 15' from any desk or workstation
 - Reduce inside room radiation level from 2.6 millirems per hour to 0.20 millirems per hour outside the room
- vi. **Architectural**
 - Finishes
 - Floor: Soil, grease, water resistant concrete with chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant (gypsum)
 - Ceiling: Painted exposed structure
 - Doors
 - Personnel doors with view panels to meet applicable code exit requirements secured with independent locking system
- vii. **Structural**
 - Control joints in floor slab at adequate spacing
- viii. **Mechanical**
 - Heating to 70 degrees
 - As required by equipment
- ix. **Plumbing**
 - As required by equipment
- x. **Electrical**
 - Lighting
 - Fluorescent, 30 fc at floor level
 - Power
 - General purpose duplex receptacles, 120 VAC, 20 A, on walls at 3'-6" AFF

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements



Typical Nuclear Gauge Storage

v. Sample Storage

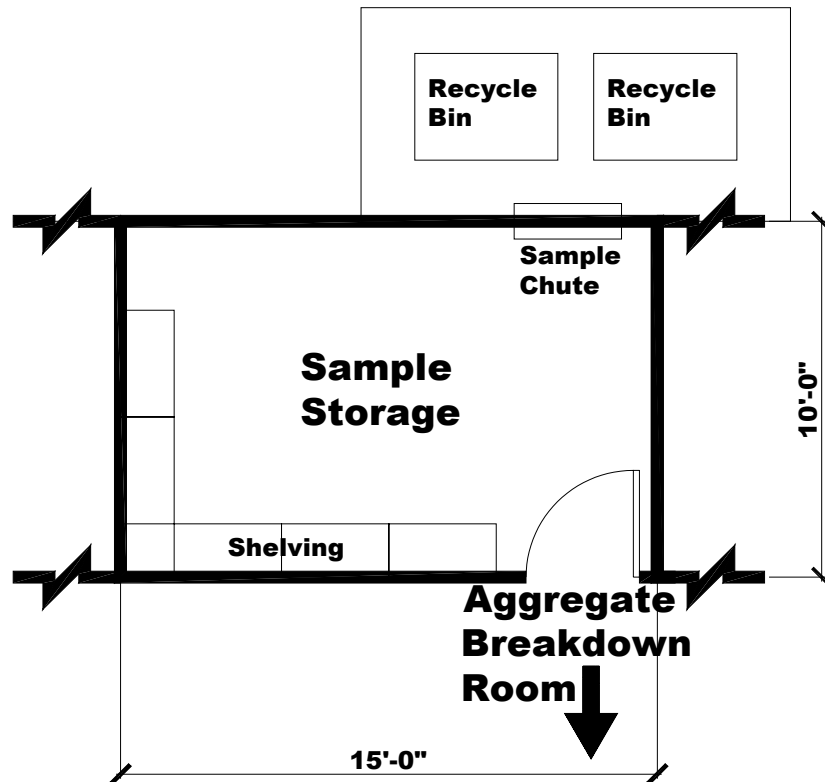
- i. **Function:** Storage of material samples for testing
- ii. **Relationship to Other Areas:** Access to the Aggregate Breakdown room
- iii. **Critical Dimensions:** 8'-0" vertical clearance
- iv. **Equipment/Furnishings:** Bulk storage racks
- v. **Comments:** 3' x 3' locking door and chute for sample disposal
- vi. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water resistant concrete with chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant (gypsum)
 - Ceiling: Painted exposed structure
 - Doors
 - Personnel doors with view panels to meet applicable code exit requirements secured with independent locking system
- vii. **Structural:**
 - Control joints in floor slab at adequate spacing
- viii. **Mechanical:**
 - Cooling to 75 degrees

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- As required by equipment
- ix. **Plumbing:**
 - As required by equipment
- x. **Electrical:**
 - Lighting
 - Fluorescent, 30 fc at floor level
 - Power
 - General purpose duplex receptacles, 120 VAC, 20 A, on walls at 3'-6" AFF



Typical Sample Storage Room

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

w. **Construction PE Materials Lab**

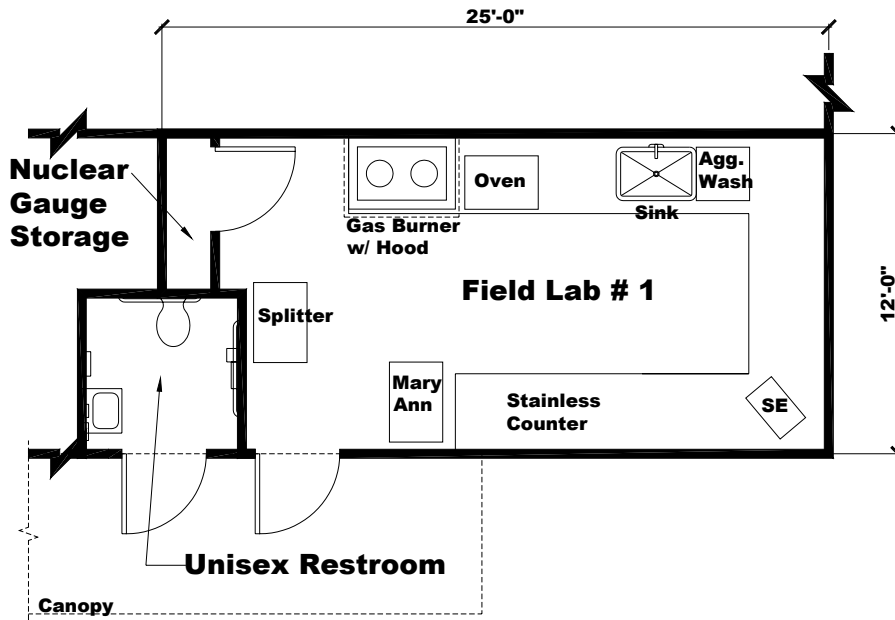
- i. **Function:** Designated room where material is tested for field acceptance.
- ii. **Relationship to Other Areas:**
 - Adjacent to the Administration Building
- iii. **Critical Dimensions:** 10'-0" vertical clearance
- iv. **Equipment/Furnishings:**
 - Oven, SE shaker, Mary Ann shaker, aggregate washer, gas burner with exhaust fan (*state supplied*)
 - Stainless steel counter 36" deep with drawers and cabinet storage below
 - 2' x 3' x 16" built-in stainless steel sink with eyewash
 - Dense wood counter 24" deep 36" above the floor (nuclear gage storage)
- v. **Comments:**
 - Nuclear gauges must be stored a minimum of 15' from any desk or workstation
 - Reduce inside room radiation level from 2.6 millirems per hour to 0.20 millirems per hour outside the room
- vi. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water resistant concrete with chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant (gypsum)
 - Ceiling: Painted exposed structure
 - Doors: Personnel door with view panels to meet applicable code exit requirements
- vii. **Structural:**
 - Control joints in floor slab at adequate spacing
- viii. **Mechanical:**
 - Heating to 70 degrees, cooling to 75 degrees
 - As required by equipment
- ix. **Plumbing:**
 - Water to sinks (hot and cold)
 - Drain from sinks with filter and cleanout to prevent fine sediment from clogging drain pipe
 - Compressed air line with cut-off valve, regulator with gauge, and quick disconnect at 4'-0" AFF; provide disconnects for 1/2" impact tools at bench locations
 - Natural gas to gas burner
 - As required by equipment
- x. **Electrical:**
 - Lighting
 - Fluorescent, 50 fc at bench top level

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- Power
 - General purpose duplex receptacles, 120 VAC, 20 A, on walls at 3'-6" AFF and GFI protected outlet outside lab
 - As required by equipment
- Communications
- Voice/data: 2 universal jacks at bench (CAT6—See WSDOT Cable Stds)



Typical Construction PE Materials Lab

x. Field Supply Storage

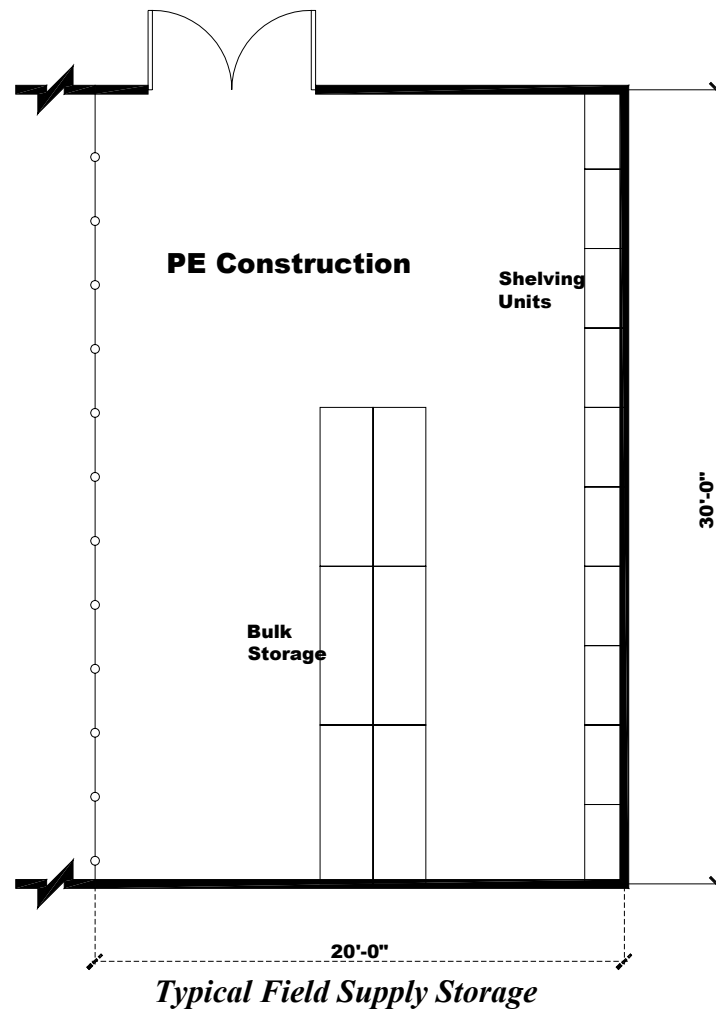
- i. **Function:** Secure storage of field equipment and supplies
- ii. **Relationship to Other Areas:** Access from the Construction Materials Lab and Administration Building
- iii. **Critical Dimensions:** 16'-0" vertical clearance
- iv. **Equipment/Furnishings:** Bulk storage racks (8' high), shelving units
- v. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water resistant concrete with chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant
 - Ceiling: Painted exposed structure

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- Doors: Double 3'-0" doors with view panels to meet applicable code exit requirements
- vi. **Structural:**
 - Control joints in floor slab at adequate spacing
- vii. **Mechanical:**
 - As required by equipment
- viii. **Plumbing:**
 - As required by equipment
- ix. **Electrical:**
 - Lighting
 - Fluorescent, 30 fc at floor level
 - Power
 - General purpose duplex receptacles, 120 VAC, 20 A, on walls at 3'-6" AFF
 - As required by equipment



Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

5) Trades Areas

(Refer to the Office Modules presented at the beginning of this chapter)

a. Plant Manager - Module B

- i. Adjacent to Crew Room

b. Locker Alcove:

- i. **Function:** Locker Room where Trades Technicians can store personal items
- ii. **Relationship to Other Areas:**
 - Adjacent to the Trades offices and Crew Room
 - Access to Restroom/Lockers/Showers
- iii. **Critical Dimensions:** 8'-0" vertical clearance
- iv. **Equipment/Furnishings**
 - Storage cabinets
 - Crew lockers full height and 18" wide by 18" deep

c. Trades Crew Room

- i. **Function:** Crew Room where field crews can report and receive information about specific projects
- ii. **Relationship to Other Areas:**
 - Adjacent to the Plant Manager
 - Access to Restroom/Lockers/Showers
- iii. **Critical Dimensions:** 10'-0" vertical clearance
- iv. **Equipment/Furnishings:**
 - Tables, chairs, 5' wide work carrels, overhead storage bins, file drawer cabinet
 - Plan storage cabinet
- v. **Comments:**
 - Provide data connection for computer at each work carrel
- vi. **Architectural:**
 - Finishes
 - Floor: VCT floor covering
 - Walls: enamel painted (gypsum)
 - Ceiling: Suspended tile ceiling
 - Doors - Personnel doors to meet applicable code exit requirements
- vii. **Structural:**
 - Control joints in floor slab at adequate spacing
- viii. **Mechanical:**
 - HVAC
 - Cooling
 - Heating ventilation as required by code

Section V—Space Needs Program

3. Maintenance Shops Program

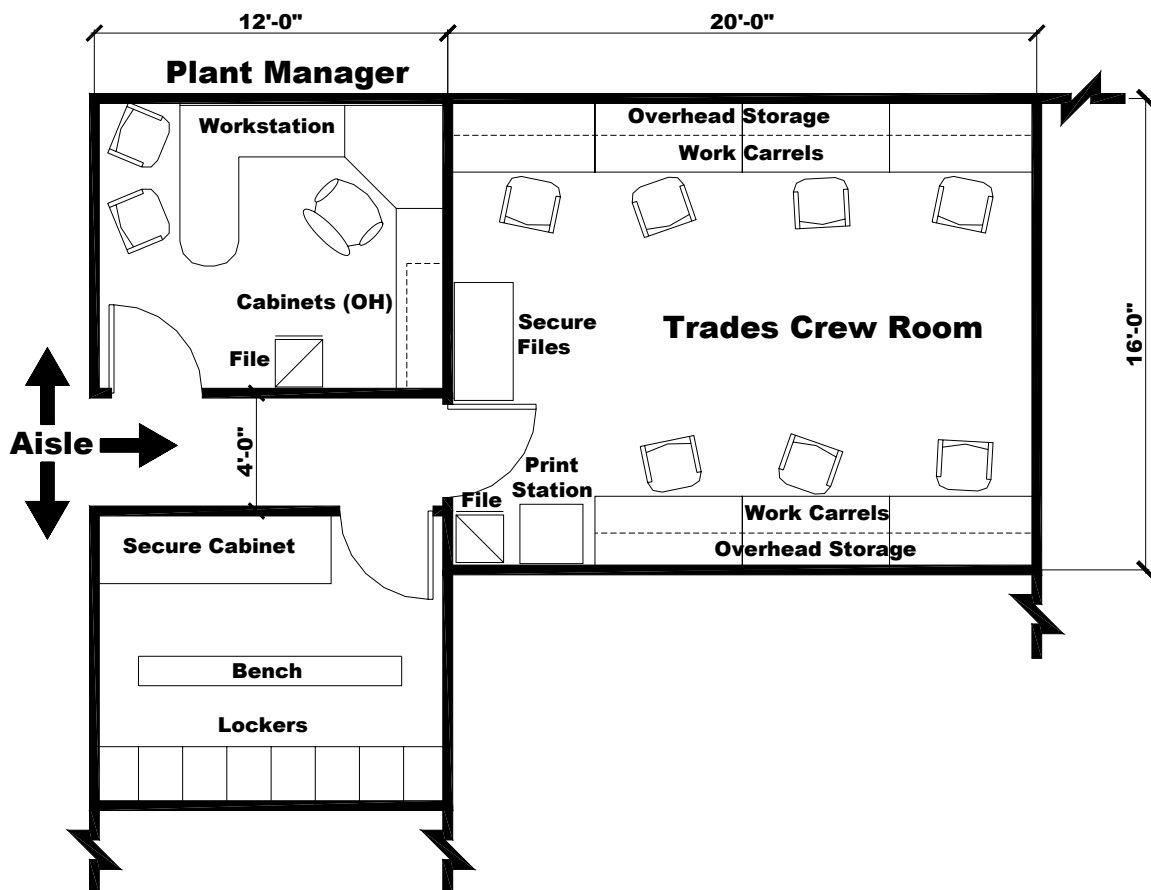
E. Typical Spaces: Physical and Environmental Requirements

ix. Plumbing:

- None

x. Electrical:

- Lighting
 - Fluorescent, 50 fc at desk height
 - Task lighting below overhead storage bins at each work carrel
- Power
 - General purpose duplex receptacle, 120 VAC, 20 A, on walls, at 3'- 6" AFF
 - Dedicated computer receptacle, 120 VAC, 20 A, adjacent to computer cable conduit
- Communications
 - Voice/data: 2 universal jacks at each work carrel (CAT6—See WSDOT Cable Stds)



Typical Trades Crew Room

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

d. Trades Shops

- i. **Function:** Shop to fabricate and repair facility equipment and building systems including carpentry, painting, electrical, plumbing, and mechanical
- ii. **Relationship to Other Areas:** Access to Plant Manager, crew room, restroom/lockers/showers
- iii. **Critical Dimensions:** 16'-0" vertical clearance to allow forklift access
- iv. **Equipment/Furnishings:**
 - Carpentry equipment including table saw, jointer, planer, band saw, disc sander, drill press, 10' x 10' open paint booth, layout table, dust collector, and router table (*state supplied*).
 - Plumbing equipment including threader, grinder, bender, shear, and drill press
 - Electrical equipment including reel rack, electrical test bench
 - Shelving units, bulk storage racks, flammable material cabinets, arm racks
 - 2-ton monorail electric chain hoist
- v. **Comments:**
 - Dustproof storage required for electrical components
- vi. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water resistant concrete with chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant (1/2 plywood up to 48" minimum)
 - Ceiling: Painted exposed structure
 - Doors
 - Exterior overhead door: High-lifting sectional, steel, insulated, 14' x 14', with view panels, automatic operator, and interior and exterior push button controls
 - Personnel doors with view panels to meet applicable code exit requirements
- vii. **Structural:**
 - Control joints in floor slab at adequate spacing
- viii. **Mechanical:**
 - Heating to 70 degrees
 - Dust collector with integral starter to carpentry shop equipment and shaker
 - General ventilation as required by code to prevent accumulation of fumes in area outside booth
 - As required by equipment
- ix. **Plumbing:**

Section V—Space Needs Program

3. Maintenance Shops Program

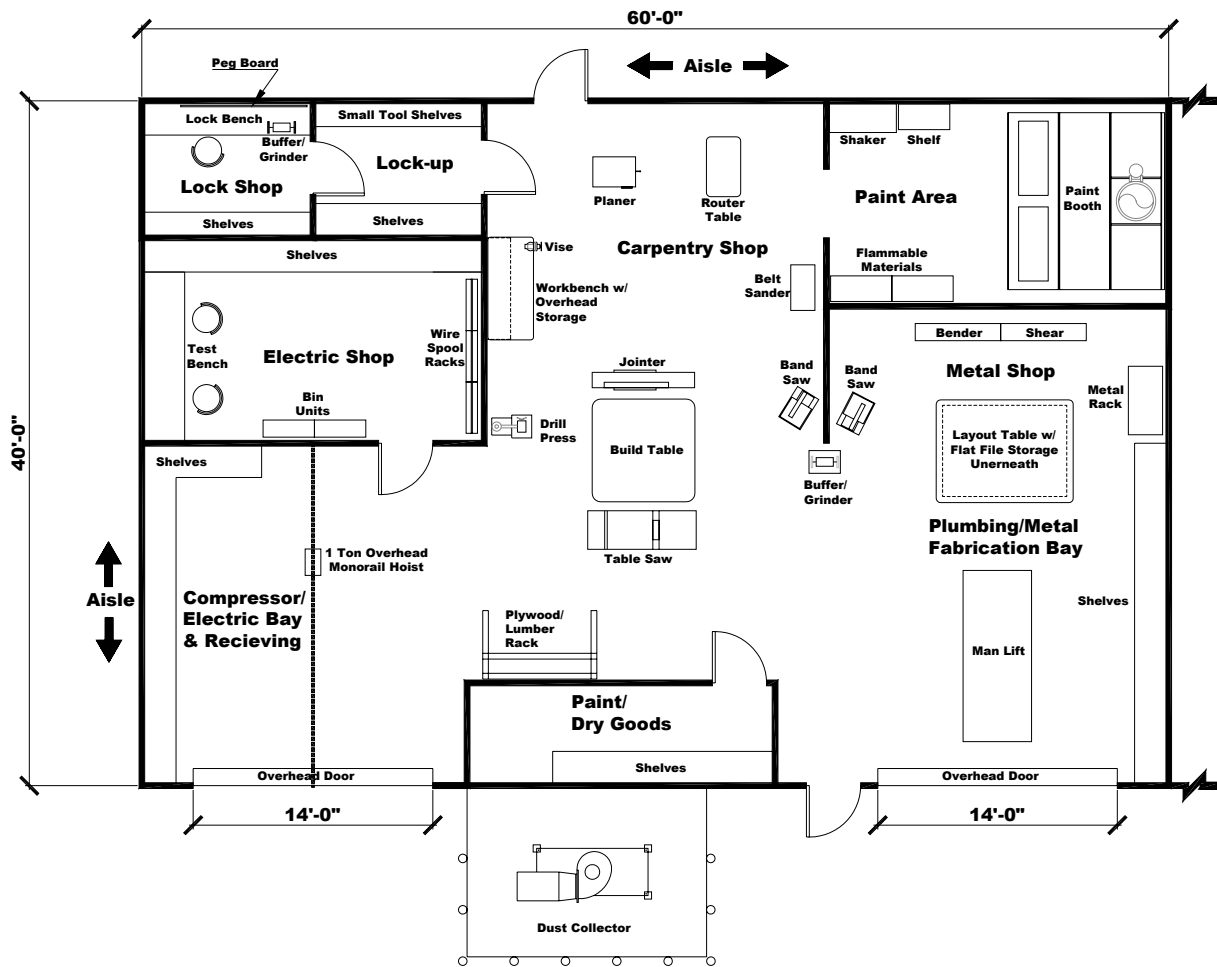
E. Typical Spaces: Physical and Environmental Requirements

- Compressed air line with cut-off valve, regulator with gauge, and quick disconnect at 4'-0" AFF; provide disconnects for 1/2" impact tools at bench locations
- Large utility sink
- As required by equipment
- x. **Electrical:**
 - Lighting
 - Fluorescent, 50 fc at bench top level
 - Power
 - General purpose duplex receptacles, 120 VAC, 20 A, on walls at 3'-6" AFF at all shop areas
 - Overhead pull down reel, 120 VAC, 20 A, at Receiving, Carpentry Shop, and Plumbing Shop
 - 208 VAC, 50 A, single-phase, in Plumbing Shop on walls at 3'-6" AFF
 - 100 Amp, three-phase sub panel in Electrical Shop at electrical test bench
 - As required by equipment
 - Communications
 - Voice/data: 2 universal jacks in Lock Shop and Electric Shop

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements



Typical Trade Shops Layout

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

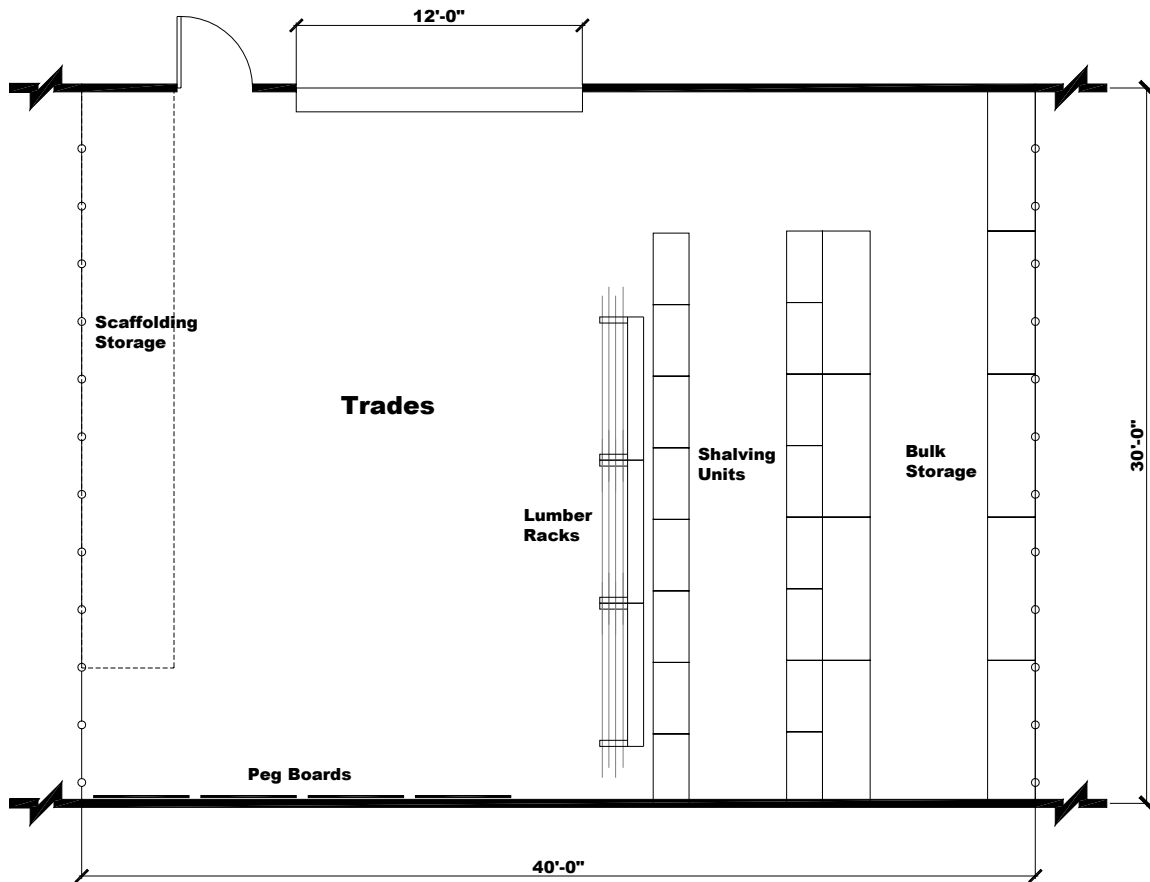
e. **Trades Enclosed Unheated Storage**

- i. **Function:** Store landscaping equipment, tools, and leftover building materials from past projects
- ii. **Relationship to Other Areas:** Adjacent to other Enclosed Heated Storage Areas
- iii. **Critical Dimensions:** 16'-0" vertical clearance to allow forklift access
- iv. **Equipment/Furnishings:** Storage equipment including bulk storage racks, tool racks, arm racks
- v. **Comments:** Secured access for tools and equipment storage
- vi. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water resistant concrete with chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant (1/2 plywood up to 48" minimum)
 - Ceiling: Painted exposed structure
 - Doors
 - Exterior overhead door: High-lifting sectional, steel, insulated, 14' x 14', with view panels, automatic operator, and interior and exterior push button controls.
 - Personnel doors with view panels to meet applicable code exit requirements
- vii. **Structural:**
 - Control joints in floor slab at adequate spacing
 - Structure as needed to support equipment
- viii. **Mechanical:**
 - As required by equipment
- ix. **Plumbing:**
 - As required by equipment
- x. **Electrical:**
 - Lighting
 - Fluorescent, 30 fc at floor level
 - Power
 - General purpose duplex receptacles, 120 VAC, 20 A, on walls at 3'-6" AFF
 - As required by equipment

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements



Typical Trades Enclosed Unheated Storage Area

f. Traffic Data Collection Storage/Shop

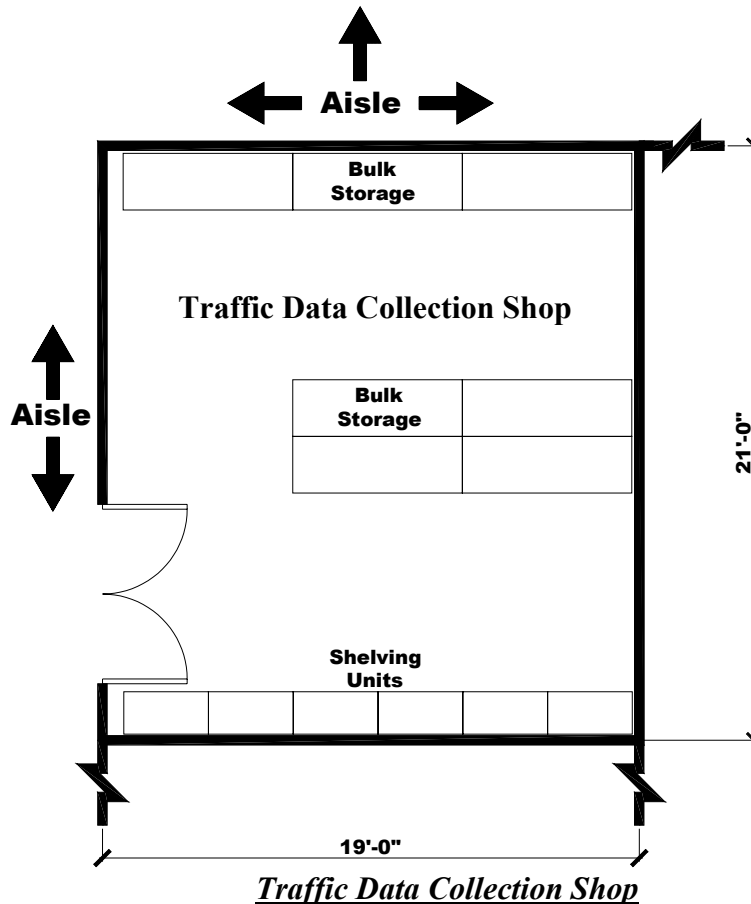
- i. **Function:** Store and maintain traffic data collecting equipment and tools
- ii. **Relationship to Other Areas:** Access to Trades Shop and Signal Shop
- iii. **Critical Dimensions:** 12'-0" vertical clearance
- iv. **Equipment/Furnishings:** Storage equipment including bulk storage racks and storage cabinets
- v. **Comments:** Secured access for tools and equipment storage
- vi. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water resistant concrete with chemical bonded concrete sealer and hardener

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- Walls: Soil and grease resistant
- Ceiling: Painted exposed structure
- Doors – Double 3'-0" door with view panels to meet applicable code exit requirements
- vii. Structural:**
 - Control joints in floor slab at adequate spacing
 - Structure as needed to support equipment
- viii. Mechanical:**
 - Heating to 70 degrees
 - As required by equipment
- ix. Plumbing:**
 - As required by equipment
- x. Electrical:**
 - Lighting
 - Fluorescent, 30 fc at floor level
 - Power
 - General purpose duplex receptacles, 120 VAC, 20 A, on walls at 3'-6" AFF
 - As required by equipment



Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

6) Signals Areas

(Refer to the Office Modules presented above)

- a. **Signal Superintendent - Module A**
 - i. Adjacent to Assistant Signal Superintendent
- b. **Assistant Signal Superintendent - Module B**
 - i. Adjacent to Signal Superintendent and Signal Supervisor
- c. **Signal Supervisor - Module B**
 - i. Adjacent to Assistant Signal Superintendent and TST's
- d. **ITS Supervisor - Module B**
 - i. Adjacent to TST's
- e. **Signal Operations Engineer - Module B**
 - i. Adjacent to Transportation Engineer 3's
- f. **Transportation Engineer 3 - Module D**
 - i. Adjacent to Signal Operation Engineer
- g. **Transportation Planning Technician - Module F**
 - i. Adjacent to Signal Operation Engineer
- h. **Transportation Systems Technician - Module F**
 - i. Adjacent to Signal Operation Engineer
- i. **Controller Test Area - Module E**
 - i. Adjacent to Signal Operation Engineer
- j. **Lab-Volt Training Center**
 - i. **Function:** Dedicated area for training signal technicians on electrical systems
 - ii. **Relationship to Other Areas:** Adjacent to signal offices
 - iii. **Equipment/Furnishings:** Electrical testing system, computer, printer, and 3' work surface
 - iv. **Design Features:**
 - Carpet or VCT floor covering
 - Acrylic latex-painted metal stud/gypsum board walls
 - Suspended tile ceiling
 - Computer and telephone receptacles
 - Fluorescent lighting, 50 fc at desk top
 - Heating to 70 degrees, cooling to 75 degrees

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- General purpose duplex receptacles, 120 VAC, 20 A
- k. **Copy/Fax/Work Area**
 - i. **Function:** Dedicated area or alcove for copier, fax machine, printer, and storage of a small amount of office supplies
 - ii. **Relationship to Other Areas:** Access to administrative areas
 - iii. **Equipment/Furnishings:** Copier, fax machine, computer printer, 6' x 3' work surface, shelving, power and phone for the UULC locate machine.
 - iv. **Design Features:**
 - Carpet or VCT floor covering
 - Acrylic latex-painted metal stud/gypsum board walls
 - Suspended tile ceiling
 - Voice/data: 2 universal jacks (CAT6—see WSDOT Cable Stds)
 - Fluorescent lighting, 50 fc at counter
 - Heating to 70 degrees, cooling to 75 degrees
 - General purpose duplex receptacles, 120 VAC, 20 A
- l. **File Storage**
 - i. **Function:** Administration file storage that provides flexibility to be converted into an office in the future
 - ii. **Relationship to Other Areas:** Adjacent to the Administration offices and other storage rooms
 - iii. **Design Features:**
 - VCT floor covering
 - Enamel painted masonry walls
 - Suspended ceiling tiles
 - Computer and telephone receptacles
 - General purpose duplex receptacles, 120 VAC, 20 A
 - Fluorescent lighting, 30 fc at floor
 - Heating to 70 degrees, cooling to 75 degrees
- m. **TMC Spare Parts Storage**
 - i. **Function:** Storage of TMS spare parts
 - i. **Relationship to Other Areas:** Access from ITS Shop
 - ii. **Critical Dimensions:** 12'-0" vertical clearance
 - iii. **Equipment/Furnishings:** Storage equipment including bulk storage racks and storage cabinets
 - iv. **Comments:** Secured access for parts storage
 - v. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water resistant concrete with chemical bonded concrete sealer and hardener

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- Walls: Soil and grease resistant. Provide ½” plywood wainscot to a height of 8 ft.
 - Ceiling: Painted exposed structure
 - Doors - Double 3’-0” door with view panels to meet applicable code exit requirements
 - vi. **Structural:**
 - Control joints in floor slab at adequate spacing
 - Structure as needed to support equipment
 - vii. **Mechanical:**
 - Heating to 70 degrees
 - As required by equipment
 - viii. **Plumbing:**
 - As required by equipment
 - ix. **Electrical:**
 - Lighting
 - Fluorescent, 30 fc at floor level
 - Power
 - General purpose duplex receptacles, surface mounted, 120 VAC, 20 A, on walls at 3’-6” AFF
 - As required by equipment
- n. **Signals Crew Area**
 - i. **Function:** Crew Room where Electrical Inspectors and Transportation System Technicians can report and receive information about specific projects
 - ii. **Relationship to Other Areas:**
 - Adjacent to the Signal offices
 - Access to Restroom/Lockers/Showers
 - iii. **Critical Dimensions:** 10’-0” vertical clearance
 - iv. **Equipment/Furnishings:**
 - Tables, chairs, desks
 - Plan storage cabinet
 - v. **Architectural:**
 - Finishes
 - Floor: VCT floor covering
 - Walls: Latex painted drywall
 - Ceiling: Suspended tile ceiling
 - Doors - Personnel doors to meet applicable code exit requirements
 - vi. **Structural:**
 - Control joints in floor slab at adequate spacing
 - vii. **Mechanical:**
 - HVAC

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

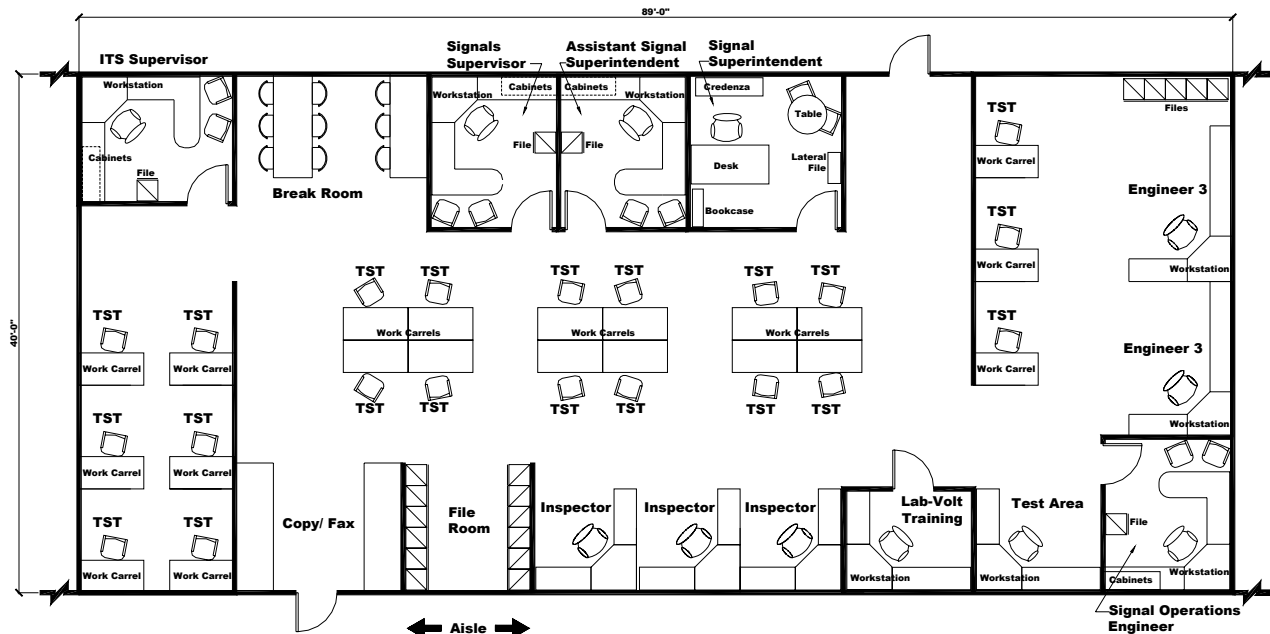
- Cooling to 75 degrees
- Heating ventilation as required by code

viii. Plumbing:

- None

ix. Electrical:

- Lighting
 - Fluorescent, 50 fc at desk height
 - Task lighting below overhead storage bins at each work carrel
- Power
 - General purpose duplex receptacle, 120 VAC, 20 A, on walls
 - Dedicated computer receptacle, 120 VAC, 20 A, adjacent to computer cable conduit
- Communications
 - Voice/data: 2 universal jacks at each work carrel (CAT6—see WSDOT Cable Stds)
 - Region-wide 800 meg radio system



Typical Signals Crew Area

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

o. Signal Maintenance Shop

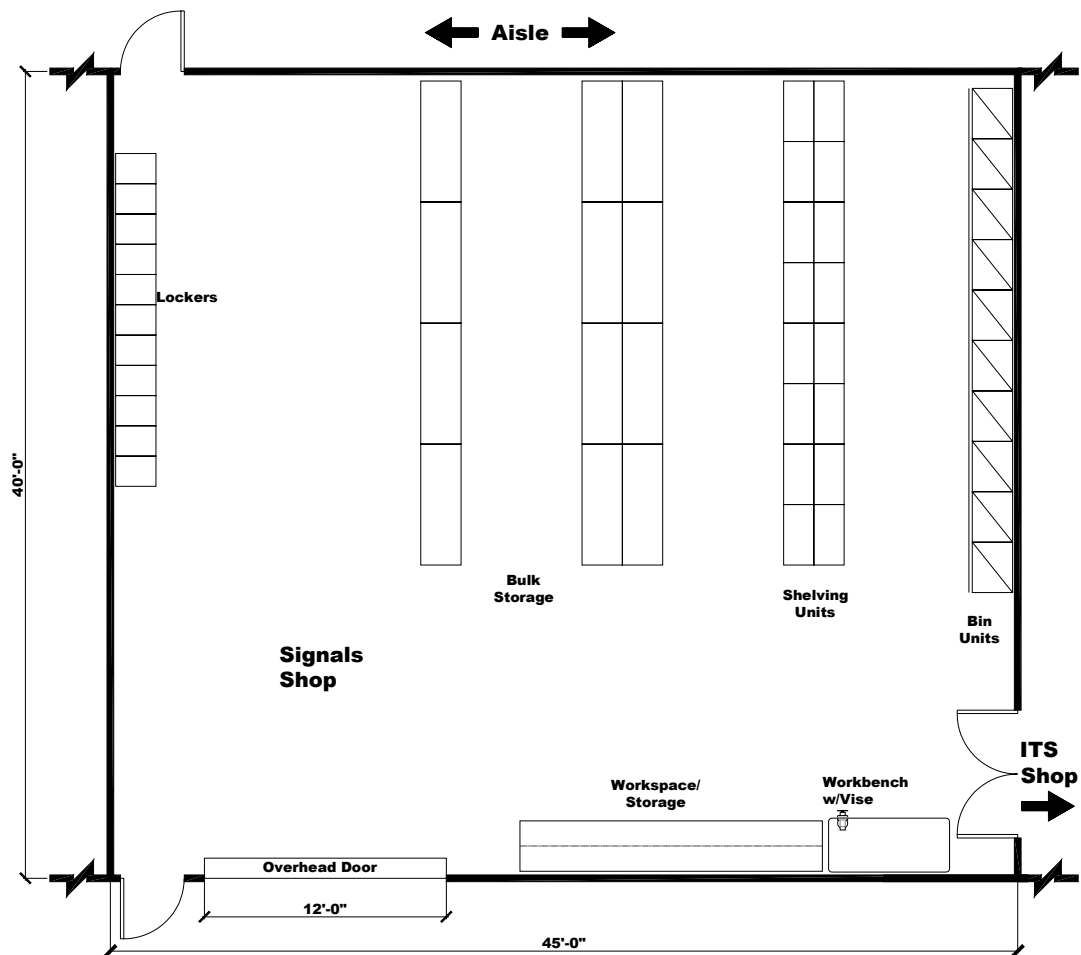
- i. Function:** Shop designated to repair and maintain traffic signals, beacons, highway lighting, and other highway-related electrical systems
- ii. Relationship to Other Areas:**
 - Adjacent to Signal ITS Shop
 - Access to Signal offices
- iii. Critical Dimensions:** 16'-0" vertical clearance for forklift access
- iv. Equipment/Furnishings**
 - Severe use workbenches with vises, bulk storage racks, tool storage racks, and conduit fitting bins
 - Crew lockers full height and 18" wide by 18" deep
- v. Comments:**
 - Allow for possible mezzanine storage at the back of the shop
- vi. Architectural:**
 - Finishes
 - Floor: Soil, grease, water resistant concrete with chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant (1/2 plywood up to 8 ft minimum)
 - Ceiling: Painted exposed structure
 - Doors
 - Exterior overhead door: High-lifting sectional, steel, insulated, 14' x 14', with view panels, automatic operator, and interior and exterior push button controls.
 - Personnel doors with view panels to meet applicable code exit requirements
- vii. Structural:**
 - Control joints in floor slab at adequate spacing
 - Structure as needed to support mezzanine
- viii. Mechanical:**
 - Heating to 70 degrees
 - As required by equipment
- ix. Plumbing:**
 - Compressed air line with cut-off valve, regulator with gauge, and quick disconnect at 4'-0" AFF; provide disconnects for 1/2" impact tools at bench locations
 - Large utility sink
 - As required by equipment
- x. Electrical:**
 - Lighting
 - Fluorescent, 50 fc at bench top level
 - Power

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- General purpose duplex receptacles, surface mounted, 120 VAC, 20 A, on walls at 3'-6" AFF at all bench areas
- 208 VAC, 50 A, single-phase, on walls at 3'-6" AFF
- 100 Amp, 42 circuit three-phase sub panel in Shop
- As required by equipment
- Communications
 - Voice/data: 2 universal jacks at each bench location (CAT6—see WSDOT Cable Stds)



Typical Signal Maintenance Shop

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

p. Signal ITS Shop

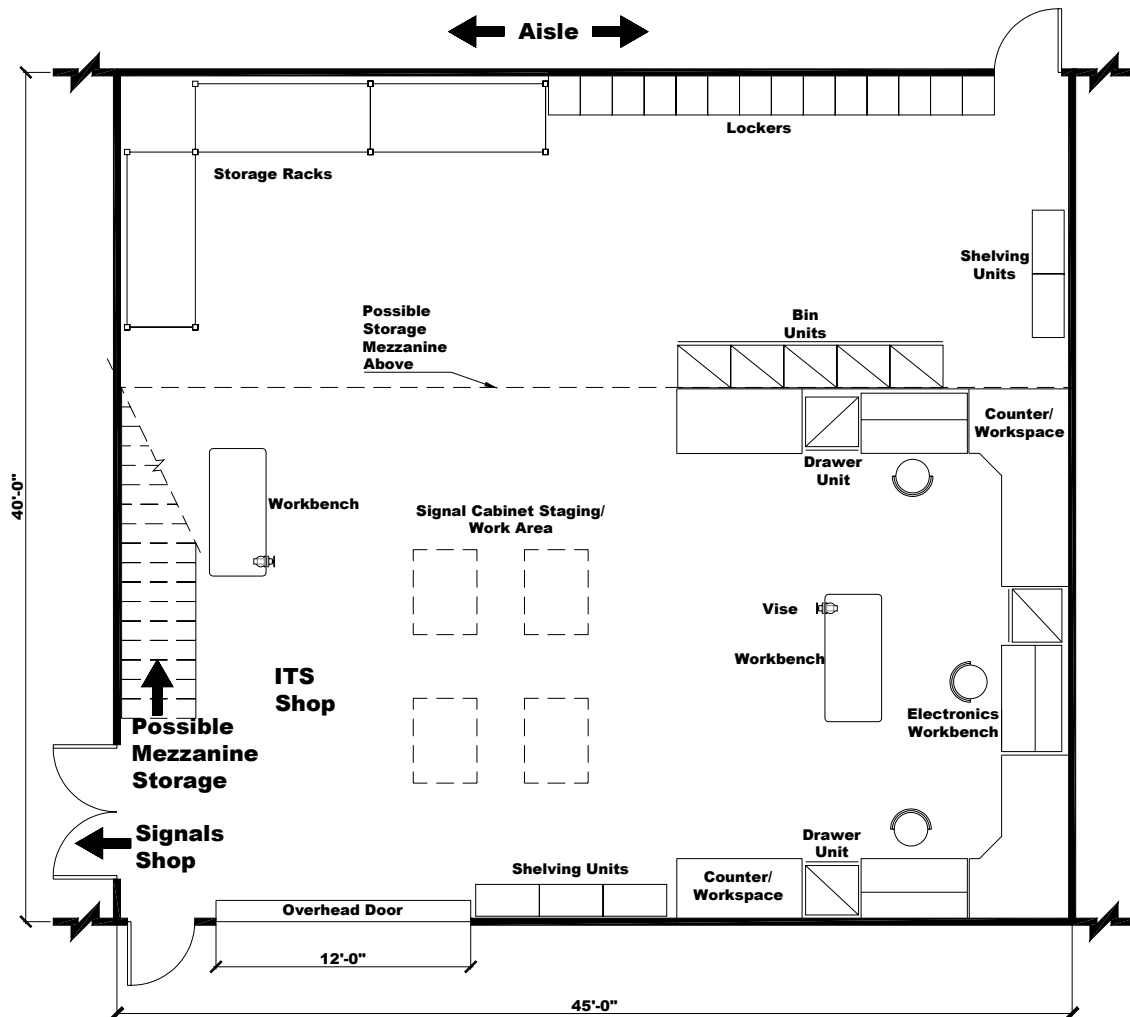
- i. Function:** Designated shop area for rebuilding/repairing electrical component units for cameras and signal fixtures and cabinets
- ii. Relationship to Other Areas:**
 - Adjacent to Signal Maintenance Shop
 - Access to Signal offices
- iii. Critical Dimensions:** 16'-0" vertical clearance for forklift access
- iv. Equipment/Furnishings:**
 - Workbenches with electronic vises, shelving units, bulk storage racks, and drawer storage units
 - Electronics workstations with electrostatic dissipation
 - Crew lockers full height and 18" wide by 18" deep
- v. Comments:** Allow for possible mezzanine storage at the back of the shop
- vi. Architectural:**
 - Finishes
 - Floor: Soil, grease, water resistant concrete with chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant (1/2 plywood up to 8 ft minimum)
 - Ceiling: Painted exposed structure
 - Doors
 - Exterior overhead door: High-lifting sectional, steel, insulated, 14' x 14', with view panels, automatic operator, and interior and exterior push button controls
 - Personnel doors with view panels to meet applicable code exit requirements
- vii. Structural:**
 - Control joints in floor slab at adequate spacing
 - Structure as needed to support mezzanine
- viii. Mechanical:**
 - Heating to 70 degrees
 - As required by equipment
- ix. Plumbing:**
 - Compressed air line with cut-off valve, regulator with gauge, and quick disconnect at 4'-0" AFF; provide disconnects for 1/2" impact tools at bench locations
 - Large utility sink
 - As required by equipment
- x. Electrical:**
 - Lighting
 - Fluorescent, 50 fc at bench top level
 - Power

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- General purpose duplex receptacles, surface mounted, 120 VAC, 20 A, on walls at 3'-6" AFF at all bench areas
- 208 VAC, 50 A, single-phase, on walls at 3'-6" AFF
- 100 Amp, three-phase sub panel in Shop
- As required by equipment
- Communications
 - Voice/data: 2 universal jacks per bench location (CAT6—see WSDOT Cable Std)
 - Phone and fiber-optic patch panel



Typical Signal ITS Shop

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

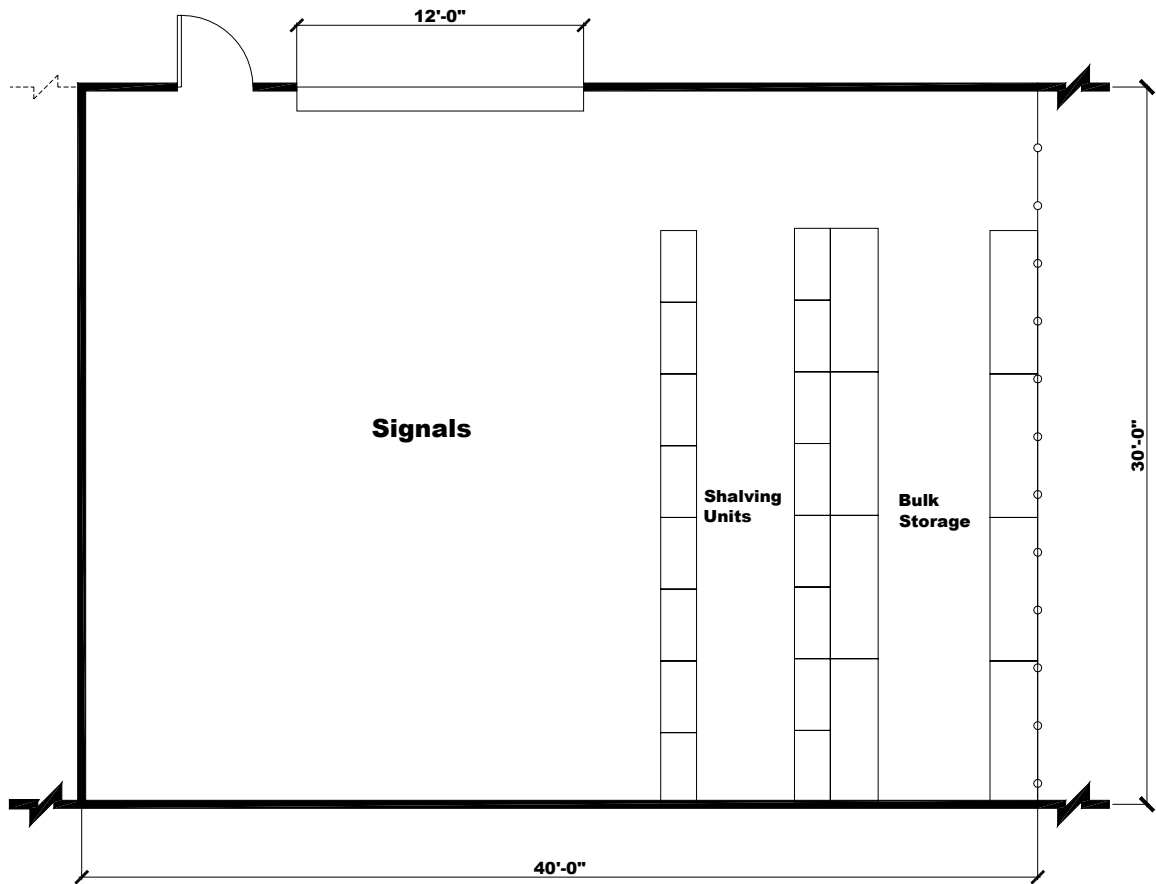
q. Signals Enclosed Unheated Storage

- i. **Function:** Storage of spare cabinets, signs, and hardware
- ii. **Relationship to Other Areas:** Adjacent to other Enclosed Heated Storage Areas
- iii. **Critical Dimensions:** 16'-0" vertical clearance to allow forklift access
- iv. **Equipment/Furnishings:** Storage equipment including bulk storage racks
- v. **Comments:** Secured access for storage
- vi. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water resistant concrete with chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant (1/2 plywood up to 8 ft minimum)
 - Ceiling: Painted exposed structure
 - Doors
 - Exterior overhead door: High-lifting sectional, steel, insulated, 14' x 14', with view panels, automatic operator, and interior and exterior push button controls
 - Personnel doors with view panels to meet applicable code exit requirements
- vii. **Structural:**
 - Control joints in floor slab at adequate spacing
 - Structure as needed to support equipment
- viii. **Mechanical:**
 - As required by equipment
- ix. **Plumbing:**
 - As required by equipment
- x. **Electrical:**
 - Lighting
 - Fluorescent, 30 fc at floor level
 - Power
 - General purpose duplex receptacles, surface mounted, 120 VAC, 20 A, on walls at 3'-6" AFF
 - As required by equipment

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements



Typical Signals Enclosed Unheated Storage

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

7) Traffic Areas

(Refer to the Office Modules presented above)

✓

a. Traffic Maintenance Supervisor - Module B

- i. Adjacent to Crew Room

b. Traffic Crew Areas

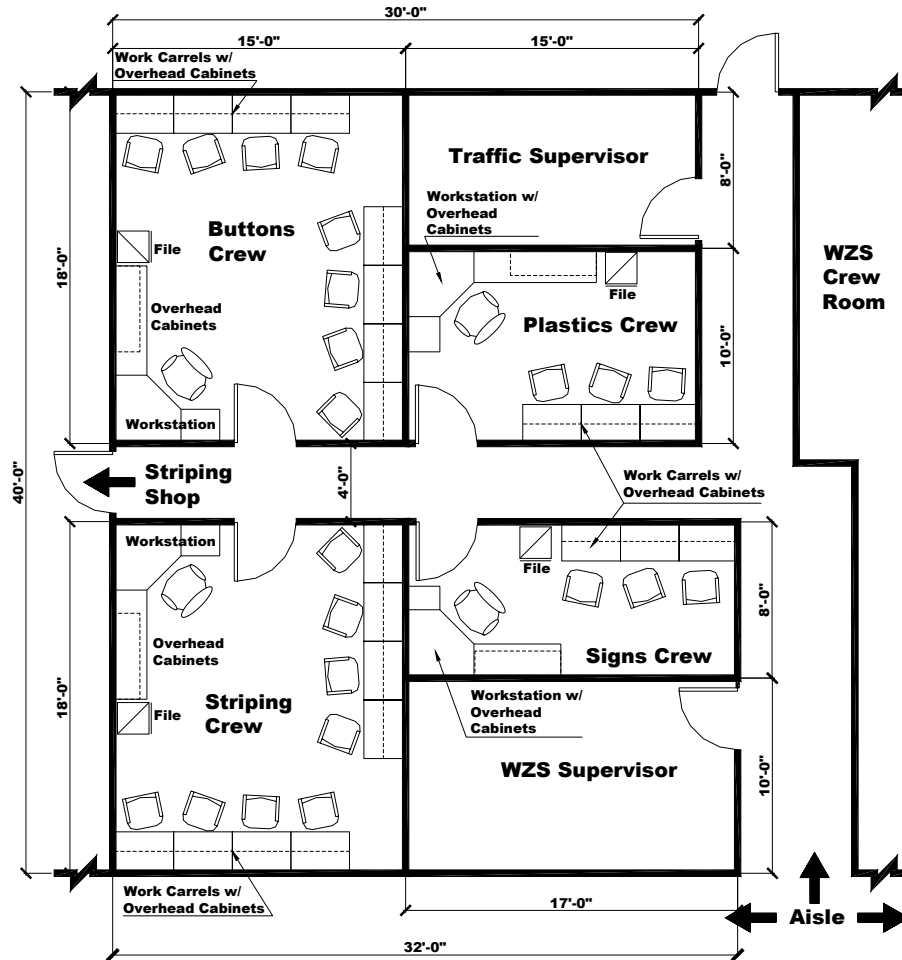
- i. **Function:** Crew Rooms where Striping, Button, Thermoplastic, and Sign Crews can report and receive information about specific projects
- ii. **Relationship to Other Areas:**
 - Adjacent to the Shop/Storage areas
 - Access to Restroom/Lockers/Showers
- iii. **Critical Dimensions:** 10'-0" vertical clearance
- iv. **Equipment/Furnishings:**
 - Tables, chairs, 5' workstations in each office, 3' wide work carrels for crew staff, overhead storage bins, file drawer cabinet
- v. **Comments:**
 - Provide data connection for computer at each work carrel
 - Provide data connection for a printer in each office
- vi. **Architectural:**
 - Finishes
 - Floor: VCT floor covering
 - Walls: Latex painted drywall
 - Ceiling: Suspended tile ceiling
 - Doors - Personnel doors to meet applicable code exit requirements
- vii. **Structural:**
 - Control joints in floor slab at adequate spacing
- viii. **Mechanical:**
 - HVAC
 - Cooling to 75 degrees
 - Heating ventilation as required by code
- ix. **Plumbing:**
 - None
- x. **Electrical:**
 - Lighting
 - Fluorescent, 50 fc at desk height
 - Task lighting below overhead storage bins at each work carrel
 - Power
 - General purpose duplex receptacle, 120 VAC, 20 A on walls, at 3'-6" AFF
 - Dedicated computer receptacle, 120 VAC, 20 A, adjacent to computer cable conduit

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- Communications
 - Voice/data: 2 universal jacks per work carrel/workstation (CAT6—see WSDOT Cable Stds)
 - One additional universal voice/data jack at each office for printer



Typical Traffic Crew Area

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

c. Sign Fabrication Shop

- i. **Function:** Shop designated for sign fabrication and maintenance
- ii. **Relationship to Other Areas:**
 - Access to Traffic Supervisor
 - Adjacent to the Lunch/Crew Room and Restroom/Locker area
 - Exterior sign storage near shop
- iii. **Critical Dimensions:**
 - 16'-0" vertical clearance
 - 24'-0" wide door to work on large signs
- iv. **Equipment/Furnishings:**
 - Cutoff saw, layout tables, drill press, grinder, and workbenches with vises (*State supplied*)
 - Sign storage racks, flammable materials cabinet, and shelving units
 - Crew lockers full height and 18" wide by 18" deep
 - 2-ton monorail with electric chain hoist
- v. **Comments:**
 - Exterior sign storage near shop
 - Covered storage for sign panels near sign shop
- vi. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water resistant concrete with chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant (1/2 plywood up to 48" minimum)
 - Ceiling: Painted exposed structure
 - Doors
 - Exterior overhead door: High-lifting sectional, steel, insulated, 24' x 14', with view panels, automatic operator, and interior and exterior push button controls
 - Personnel doors with view panels to meet applicable code exit requirements
- vii. **Structural:**
 - Control joints in floor slab at adequate spacing
- viii. **Mechanical:**
 - Heating to 70 degrees
 - As required by equipment
- ix. **Plumbing:**
 - Compressed air line with cut-off valve, regulator with gauge, and quick disconnect at 4'-0" AFF; provide disconnects for 1/2" impact tools at bench locations
 - Water to utility sink (hot and cold)
 - Hose bib outside the overhead door
 - As required by equipment

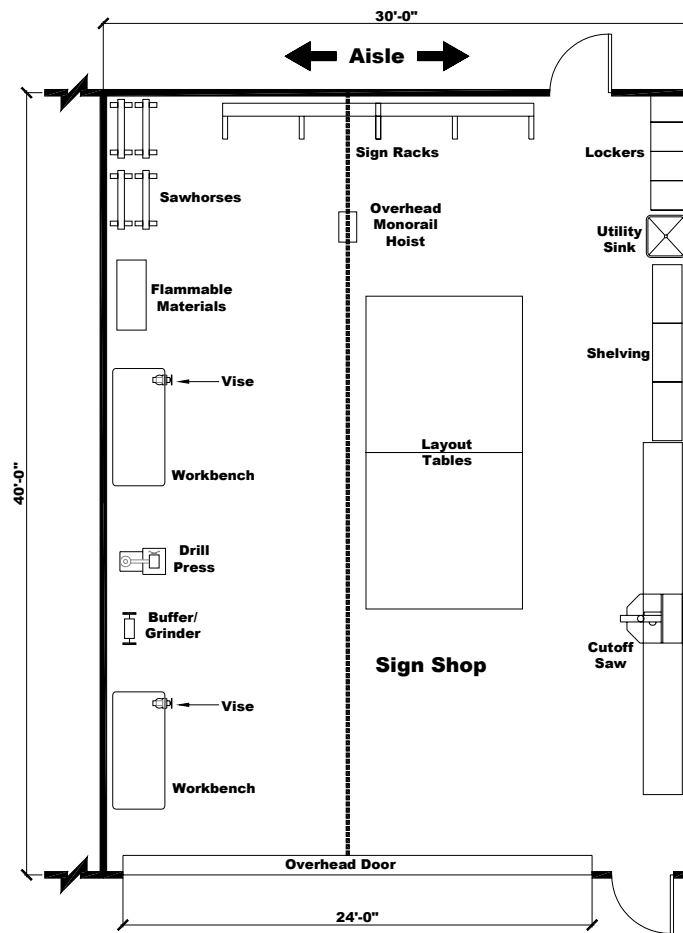
Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

x. Electrical:

- Lighting
 - Fluorescent, 50 fc at bench top level
- Power
 - General purpose duplex receptacles, 120 VAC, 20 A and 208 VAC, 30 A on walls at 3'-6" AFF at all bench areas
 - As required by equipment
- Communications
 - Voice/data: 2 universal jacks per bench location (CAT6—see WSDOT Cable Stds)



Typical Sign Fabrication Shop

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

d. Thermoplastics and Button Shop

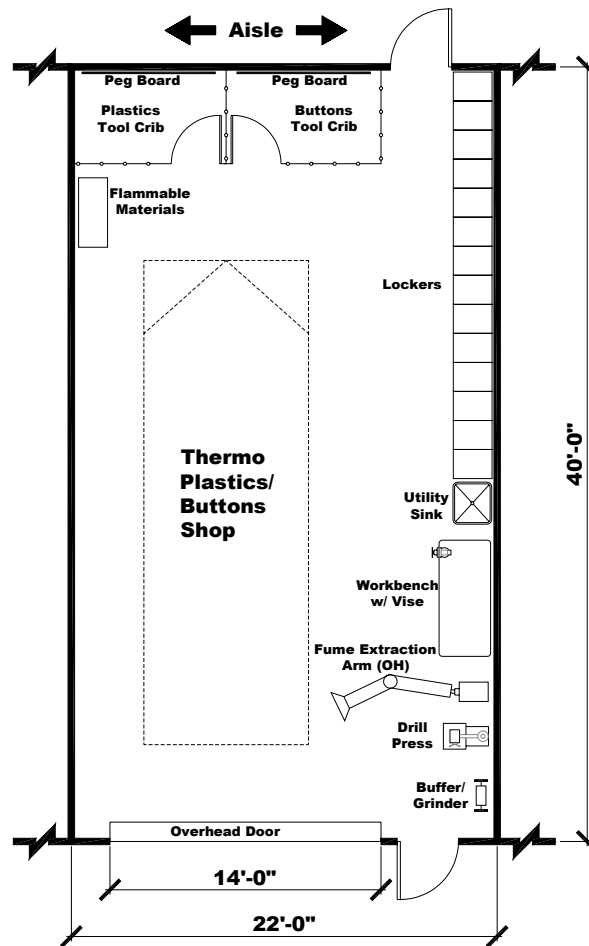
- i. Function:** Shop designated for maintenance of button and thermoplastic field equipment
- ii. Relationship to Other Areas:**
 - Access to Traffic Supervisor
 - Adjacent to the Lunch/Crew Room and Restroom/Locker area
- iii. Critical Dimensions:** 16'-0" vertical clearance
- iv. Equipment/Furnishings:**
 - Severe use workbench with vise, buffer/grinder, drill press, utility sink
 - Flammable materials cabinets, fume extraction arm
 - Separate chain link tool cribs for Plastics and Buttons; each with a peg board
 - Crew lockers full height and 18" wide by 18" deep
- v. Architectural:**
 - Finishes
 - Floor: Soil, grease, water resistant concrete with chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant (1/2 plywood up to 48" minimum)
 - Ceiling: Painted exposed structure
 - Doors
 - Exterior overhead door: High-lifting sectional, steel, insulated, 14' x 14', with view panels, automatic operator, and interior and exterior push button controls
 - Personnel doors with view panels to meet applicable code exit requirements
- vi. Structural:**
 - Control joints in floor slab at adequate spacing
- vii. Mechanical:**
 - Heating to 70 degrees
 - Special ventilation as required by welding equipment
 - As required by equipment
- viii. Plumbing:**
 - Compressed air line with cut-off valve, regulator with gauge, and quick disconnect at 4'-0" AFF; provide disconnects for 1/2" impact tools at bench locations
 - Water to sink (hot and cold)
 - As required by equipment
- ix. Electrical:**
 - Lighting
 - Fluorescent, 50 fc at bench top level
 - Power

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- General purpose duplex receptacles, 120 VAC, 20 A and 208 VAC, 50 A on walls at 3'-6" AFF at all bench areas
- As required by equipment
- Communications
 - Voice/data: 2 universal jacks per bench location (CAT6—see WSDOT Cable Stds)



Typical Thermoplastics and Button Shop

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

e. Striping Shop

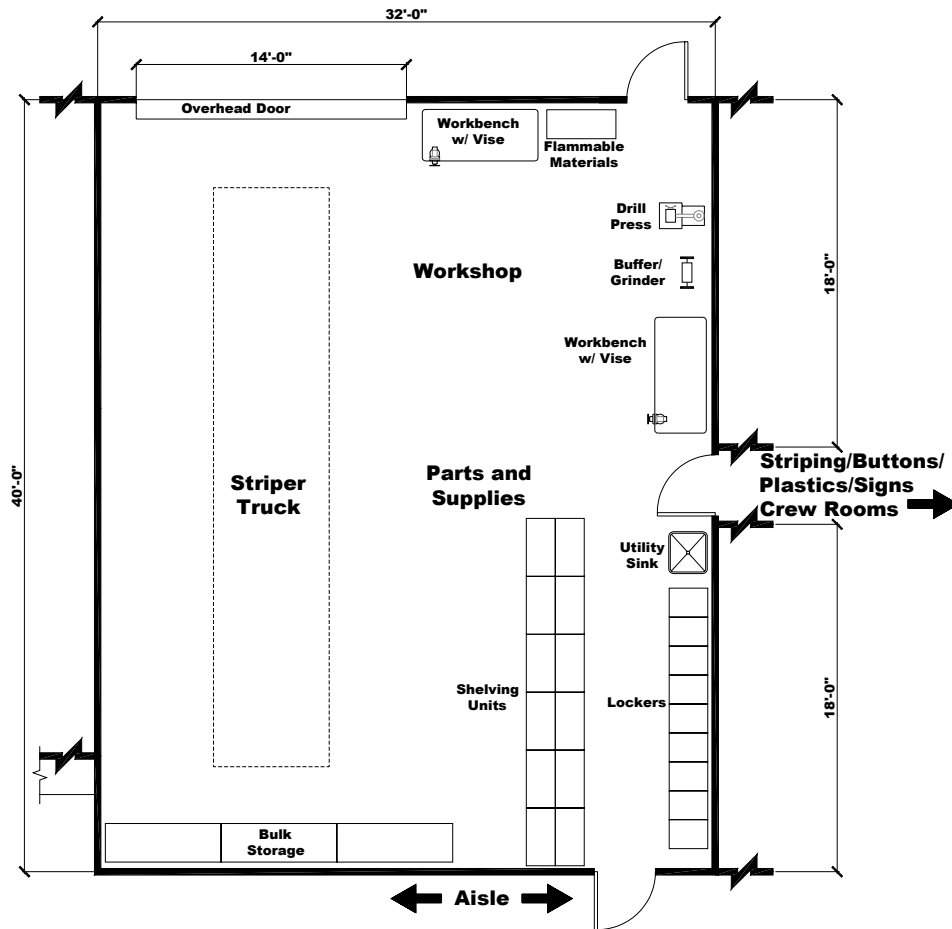
- i. **Function:** Shop designated for maintenance of striping field equipment
- ii. **Relationship to Other Areas:**
 - Access to Traffic Supervisor
 - Adjacent to the Lunch/Crew Room and Restroom/Locker area
 - Shop space should be near the Striping heated storage space
- iii. **Critical Dimensions:** 16'-0" vertical clearance
- iv. **Equipment/Furnishings:**
 - Severe use workbench with vise, buffer/grinder, drill press, utility sink
 - Flammable materials cabinets, shelving units, and bulk storage racks
 - Crew lockers full height and 18" wide by 18" deep
- v. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water resistant concrete with chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant (1/2 plywood up to 48" minimum)
 - Ceiling: Painted exposed structure
 - Doors
 - Exterior overhead door: High-lifting sectional, steel, insulated, 14' x 14', with view panels, automatic operator, and interior and exterior push button controls
 - Personnel doors with view panels to meet applicable code exit requirements
- vi. **Structural:**
 - Control joints in floor slab at adequate spacing
- vii. **Mechanical:**
 - Heating to 70 degrees
 - As required by equipment
 - Ceiling fans for cooling
- viii. **Plumbing:**
 - Compressed air line with cut-off valve, regulator with gauge, and quick disconnect at 4'-0" AFF; provide disconnects for 1/2" impact tools at bench locations
 - Water to sink (hot and cold)
 - As required by equipment
- ix. **Electrical:**
 - Lighting
 - Fluorescent, 50 fc at bench top level
 - Power

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- General purpose duplex receptacles, 120 VAC, 20 A and 208 VAC, 30 A on walls at 3'-6" AFF at all bench areas
- As required by equipment
- Communications
 - Voice/data: 2 universal jacks per work bench location (CAT6—see WSDOT Cable Stds)



Typical Striping Shop

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

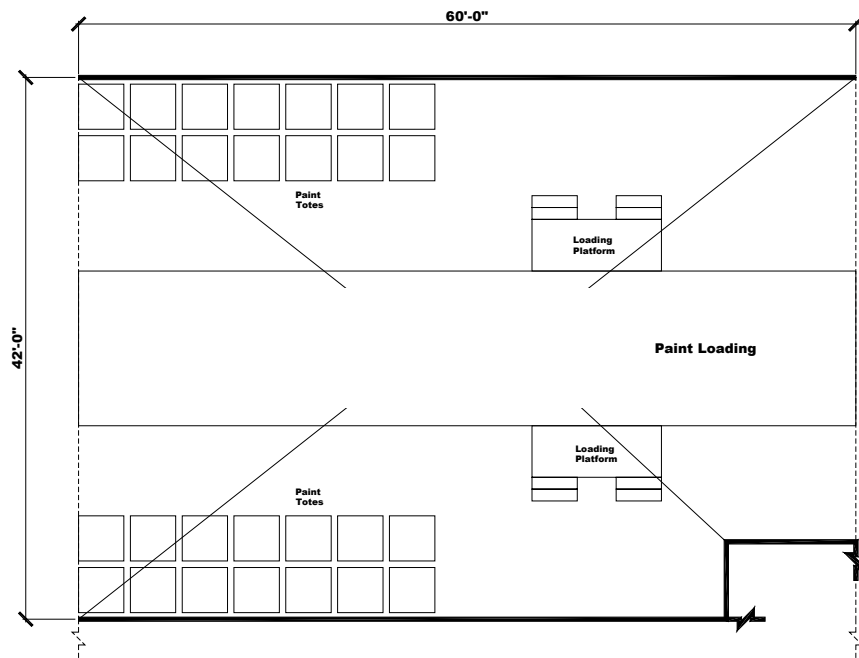
f. Paint Cleanout and Paint Storage Area

- i. **Function:** Bay for loading paint onto the striping truck, cleanout of paint equipment on truck and storage of new paint totes
- ii. **Relationship to Other Areas:**
 - Access to all other maintenance areas
 - Physically separated from other areas to prevent migration paint splash and water
 - Separate from residential areas due to high noise levels during paint loading in early morning/late evening hours.
- iii. **Critical Dimensions:**
 - 16'-0" vertical clearance
 - 45'-0" wide by 60'-0" long
- iv. **Equipment/Furnishings:** Paint loading platforms
- v. **Comments:** Drive-through configuration
- vi. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water, slip resistant concrete
 - Walls: Soil and grease resistant
 - Ceiling: Painted exposed structure
 - Doors: None
 - Bollards on exterior at columns
- vii. **Structural:**
 - Control joints in floor slab at adequate spacing
- viii. **Mechanical:**
 - As required by equipment
- ix. **Plumbing:**
 - Water: 3/4" water hose bib with standard faucet at rear of bay 2'-0" AFF
 - Heavy grated drain area (with removable cover) to sediment and oil interceptor
 - As required by equipment
- x. **Electrical:**
 - Lighting
 - Metal halide lighting, water tight lighting located between wall and centerline of lane, 30 fc
 - Power
 - Waterproof duplex receptacles, 120VAC, 20A, GFI protected, on walls at 3'-6" AFF

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements



Typical Paint Cleanout and Paint Storage Area

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

8) Work Zone Safety Areas

(Refer to the Office Modules presented above)

a. Work Zone Safety Supervisor - Module B

- i. Adjacent to Crew Room

b. Work Zone Safety Crew Room

i. Function:

- Crew Rooms where Work Zone Safety staff can report and receive information about specific projects

ii. Relationship to Other Areas:

- Adjacent to Work Zone Safety Shop/Storage Areas
- Access to Restroom/Lockers/Showers

iii. Critical Dimensions:

- 10'-0" vertical clearance

iv. Equipment/Furnishings:

- Tables, chairs, 5' wide work carrels, overhead storage bins, file drawer cabinet

v. Comments:

- Provide data connection for computer at each work carrel

vi. Architectural:

- Finishes
 - Floor: VCT floor covering
 - Walls: Latex painted drywall
 - Ceiling: Suspended tile ceiling
- Doors - Personnel doors to meet applicable code exit requirements

vii. Structural:

- Control joints in floor slab at adequate spacing

viii. Mechanical

- HVAC
 - Cooling to 75 degrees
 - Heating ventilation as required by code

ix. Plumbing::

- None

x. Electrical:

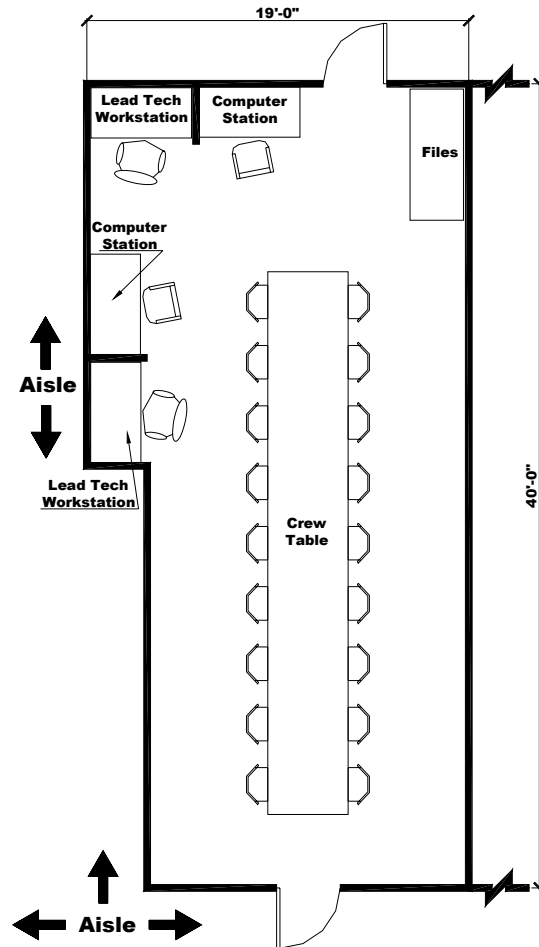
- Lighting
 - Fluorescent 50 fc at desk height
 - Task lighting below overhead storage bins at each work carrel
- Power
 - General purpose duplex receptacle, 120 VAC, 20 A, on walls, at 3' - 6" AFF
 - Dedicated computer receptacle, 120 VAC, 20 A, adjacent to computer cable conduit

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- Communications
 - Voice/data: 2 universal jacks per work carrel (CAT6—see WSDOT Cable Stds)



Typical Work Zone Safety Crew Room

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

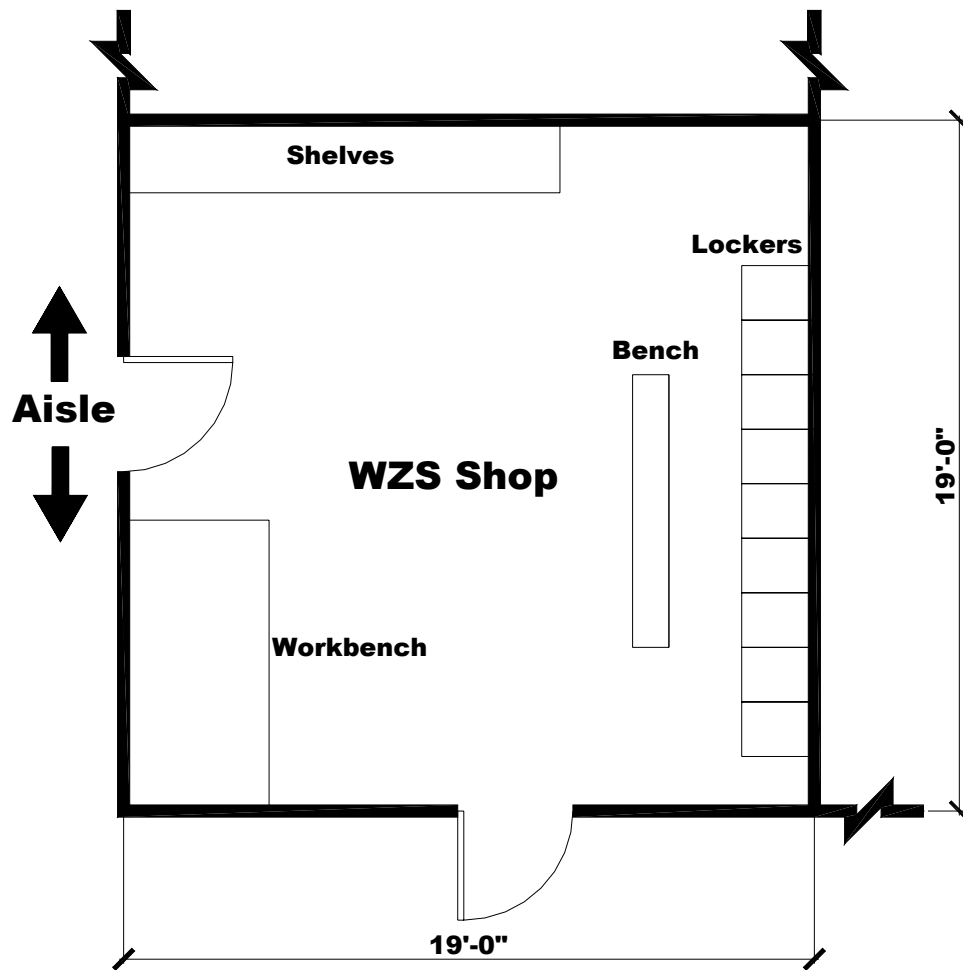
c. Work Zone Safety Shop

- i. **Function:** Shop designated for maintenance of Work Zone Safety equipment and crew lockers
- ii. **Relationship to Other Areas:**
 - Access to Work Zone Safety Supervisor
 - Adjacent to the Crew Room and Restroom/Locker area
- iii. **Critical Dimensions:** 12'-0" vertical clearance
- iv. **Equipment/Furnishings:**
 - Workbench with vise and shelving units
 - 18 stacked half height crew lockers, 18" wide by 18" deep
- v. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water resistant concrete with chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant
 - Ceiling: Painted exposed structure
 - Doors
 - Personnel doors with view panels to meet applicable code exit requirements
- vi. **Structural:**
 - Control joints in floor slab at adequate spacing
- vii. **Mechanical:**
 - HVAC - Heating to 70 degrees
 - As required by equipment
- viii. **Plumbing:**
 - Water - 3/4" water hose bib with standard faucet 24" AFF outside shop
 - As required by equipment
- ix. **Electrical:**
 - Lighting
 - Fluorescent, 50 fc at bench top level
 - Power
 - General purpose duplex receptacles, 120 VAC, 20 A, on walls at 3'-6" AFF at all bench areas
 - As required by equipment
 - Communications
 - Voice/data: 2 universal jacks (CAT6—see WSDOT Cable Stds)

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements



Typical Work Zone Safety Shop

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

9) Central Stores

(Refer to the Office Modules presented at the beginning of this chapter)

- a. **Purchasing Manager - Module B**
 - i. Adjacent to Supply Officer and Control Tech
- b. **Supply Officer One - Module E**
 - i. Adjacent to Purchasing Manager and Customer Counter
- c. **Supply Control Tech - Module E**
 - i. Adjacent to Purchasing Manager and Customer Counter
- d. **Customer Lobby Issue Counter**
 - i. **Function:** Central entrance for customers to purchase materials and supplies from the Warehouse
 - ii. **Relationship to Other Areas:**
 - Limited customer access to the facility
 - Adjacent to Central Stores Office
 - Adjacent to Warehouse
 - iii. **Equipment/Furnishings:**
 - Issue counter 8'-0" x 3'-0" with four drawers (one lockable) and four lower cupboards with adjustable shelving on opposite side from customer lobby
 - Bulk storage rack for samples
 - iv. **Design Features:**
 - Tile floor
 - Acrylic latex-painted metal stud/gypsum board walls or enamel painted masonry walls
 - Suspended ceiling tiles
 - Plastic laminate counter at standing height
- e. **Copy/File/Fax**
 - i. **Function:** Dedicated area or alcove for copier, fax machine, printer, and storage of a small amount of office supplies
 - ii. **Relationship to Other Areas:** Adjacent to Central Stores administrative area
 - iii. **Equipment/Furnishings:** Copier, fax machine, computer printer, 6' x 3' work surface, shelving
 - iv. **Design Features:**
 - Carpet or VCT floor covering
 - Acrylic latex-painted metal stud/gypsum board walls
 - Suspended tile ceiling
 - Voice/data: 3 universal jacks (CAT6—see WSDOT Cable Stds)
 - Fluorescent lighting, 50 fc at counter

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- Heating to 70 degrees, cooling to 75 degrees
- General purpose duplex receptacles, 120 VAC, 20 A

f. **Central Stores Warehouse**

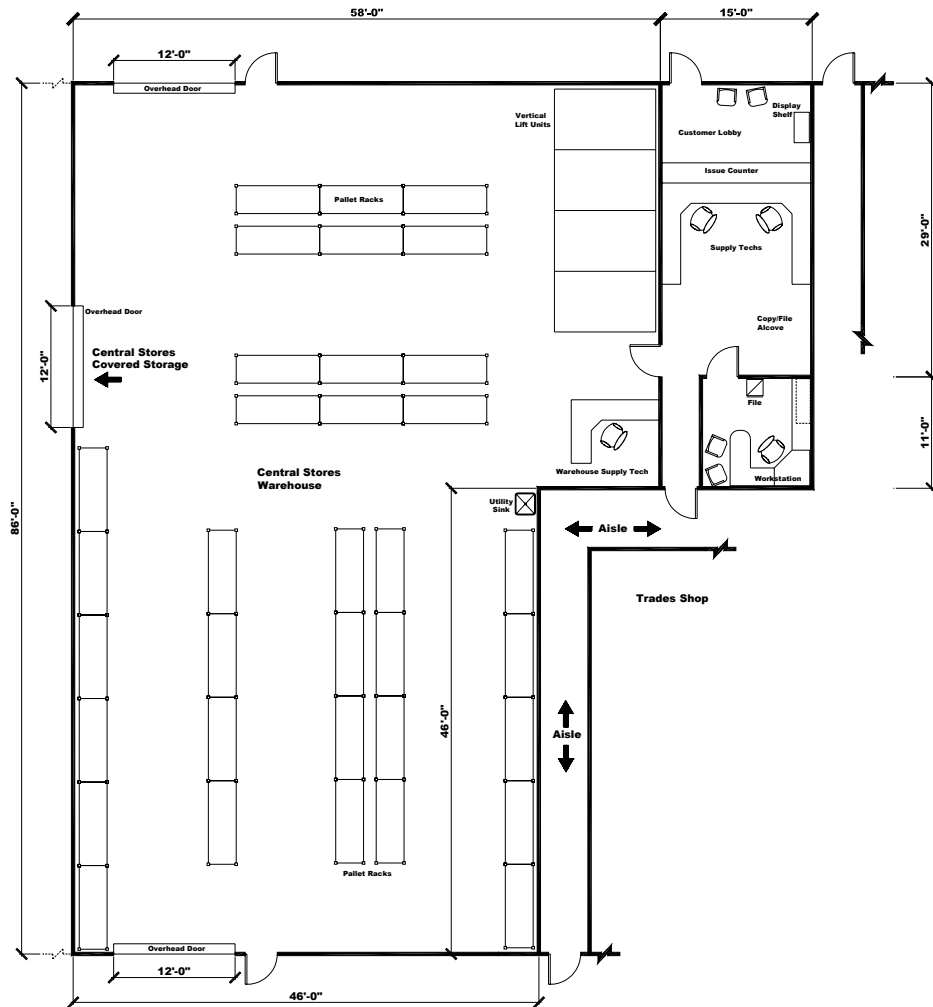
- Function:** Secure storage of Regional DOT consumable supplies and long lead time materials
- Relationship to Other Areas:**
 - Adjacent to the Central Stores Office Areas
 - Access to Restroom/Lockers/Showers
 - Access to secure covered storage area
- Critical Dimensions:** 16'-0" vertical clearance to allow forklift access
- Equipment/Furnishings:**
 - Pallet racks, vertical storage shuttle retrieval system, utility sink
 - Workstation for Warehouse Supply Control Tech
- Architectural:**
 - Finishes
 - Floor (offices/lobby): Carpet floor covering
 - Floor (warehouse): Soil, grease, water resistant concrete with chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant
 - Ceiling: Painted exposed structure
 - Doors
 - Exterior overhead door: High-lifting sectional, steel, insulated, 12' x 12' with view panels, automatic operator, interior and exterior push button controls, and lockout on exterior
 - Personnel doors to meet applicable code exit requirements
- Structural:**
 - Control joints in floor slab at adequate spacing
- Mechanical:**
 - HVAC - heated to 70 degrees
 - As required by equipment
- Plumbing:**
 - Water to utility sink (hot and cold)
 - Provide hose bibs on exterior
- Electrical:**
 - Lighting
 - Fluorescent, 30 fc at floor level
 - Zone lighting with multiple switching locations
 - Power

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- General purpose duplex receptacles, 120 VAC, 20 A, on walls at 3'-6" AFF
- As required by equipment
- Communications
 - Voice/data: 3 universal jacks per workstation (CAT6—see WSDOT Cable Stds)



Typical Central Stores Warehouse

Section V—Space Needs Program

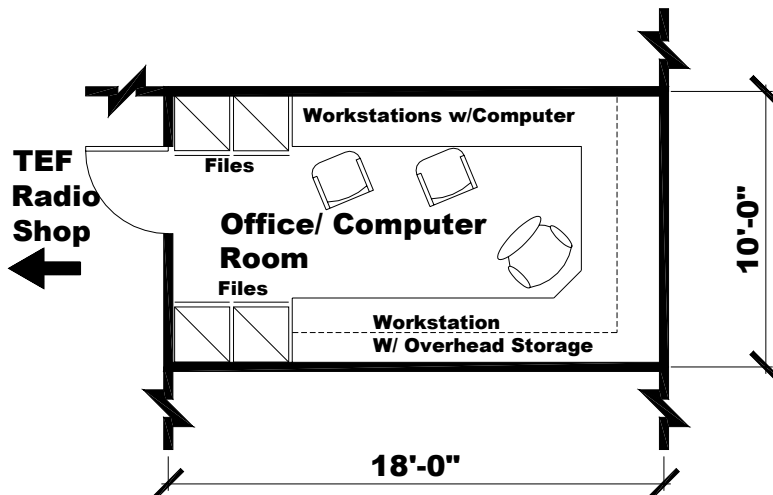
3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

10) TEF Radio Areas

a. TEF Radio Office/Computer Room

- i. **Function:** Shared office for TEF Radio Senior Telecom Specialist and Transportation Systems Technician to repair and build electronic components
- ii. **Relationship to Other Areas:** TEF Radio Repair Bay and TEF Radio Screened Workshop
- iii. **Critical Dimensions:** 8'-0" vertical clearance
- iv. **Equipment/Furnishings:**
 - Task chairs, 24" electrostatic dissipative work surfaces, under surface vertical files
 - Drawer cabinet storage units, overhead wall mounted storage units
- v. **Design Features:**
 - VCT floor covering, enamel painted gypsum walls, and suspended tile ceiling
 - Air conditioned cooled
 - 8" conduit to radio tower
 - Voice/data: 3 universal jacks per workstation (CAT6—see WSDOT Cable Stds)
 - Fluorescent lighting 50 fc at bench top height
 - General purpose duplex receptacles, 120 VAC, 20 A
 - Personnel door with view panels to meet applicable code exit requirements



Typical TEF Radio Office/Computer Room

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

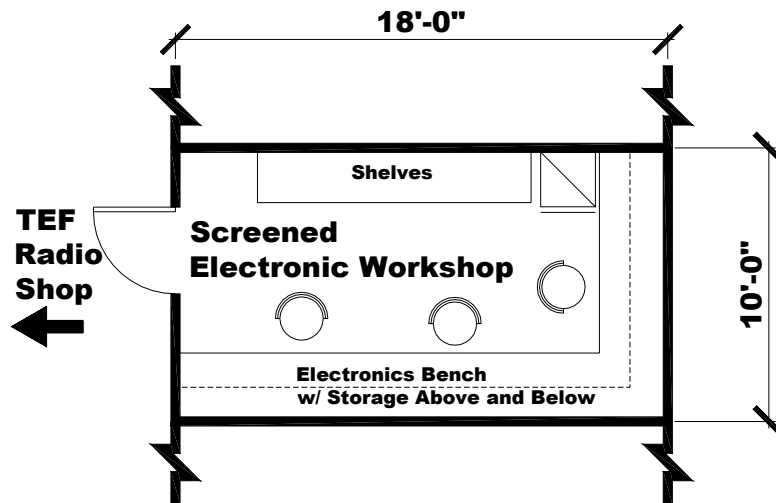
b. TEF Radio Screened Workshop

- i. **Function:** Shop designated for radio repair and testing
- ii. **Relationship to Other Areas:** Adjacent to TEF Radio Repair Bay
- iii. **Critical Dimensions:** 8'-0" vertical clearance
- iv. **Equipment/Furnishings:**
 - Electronic dissipative workbenches with wall-mounted overhead storage units
 - Drawer storage cabinets and shelving units
- v. **Comments:** Copper screen needs to be grounded
- vi. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water resistant concrete with chemical bonded concrete sealer and hardener
 - Walls:
 - Soil and grease resistant
 - Shielded with continuous bonded copper screen behind gypsum for radio and microwave frequency attenuation greater than 1GHz
 - Ceiling: Painted gypsum
 - Doors
 - Personnel doors to meet applicable code exit requirements
 - Shielded with frame bonded to room copper screen behind gypsum for radio and microwave frequency attenuation greater than 1GHz
- vii. **Structural:** Control joints in floor slab at adequate spacing
- viii. **Mechanical:**
 - HVAC – heating to 70 degrees, cooling to 75 degrees
 - Exhaust hood for soldering station per OSHA requirements
 - As required by equipment
- ix. **Plumbing:**
 - As required by equipment
- x. **Electrical:**
 - Lighting
 - Fluorescent, 50 fc at bench top level
 - Power
 - General purpose power strip, 120 VAC, 20 A on walls at 3'-6" AFF at all bench areas
 - 208 VAC, 30 A, single-phase on walls at 3'-6" AFF
 - As required by equipment
 - Communications
 - Voice/data: 2 universal jacks at bench (CAT6—see WSDOT Cable Stds)
 - Two 4" conduits to roof with weather-head for cables to test antennas

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements



Typical TEF Radio Screened Workshop

c. TEF Radio Staging Room

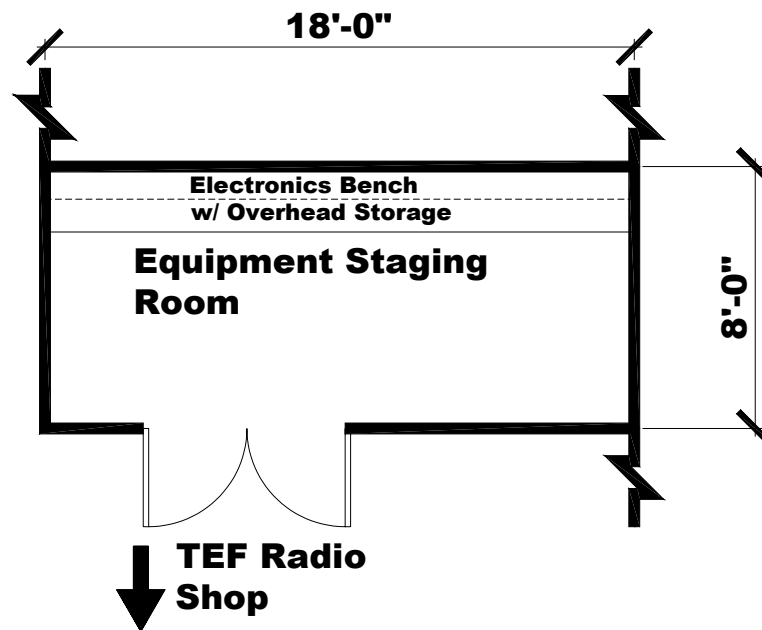
- i. **Function:** Secure storage area designated for radio equipment for pending projects
- ii. **Relationship to Other Areas:** Adjacent to TEF Radio Repair Bay
- iii. **Critical Dimensions:** 8'-0" vertical clearance
- iv. **Equipment/Furnishings:** Electronic dissipative workbench with wall mounted overhead storage units
- v. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water resistant concrete with chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant gypsum
 - Ceiling: Painted gypsum
 - Doors - Double 3'-0" door with view panels to meet applicable code exit requirements
- vi. **Structural:**
 - Control joints in floor slab at adequate spacing
- vii. **Mechanical:**
 - HVAC - cooling to 75 degrees

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- As required by equipment
- viii. Plumbing:**
 - As required by equipment
- ix. Electrical:**
 - Lighting
 - Fluorescent, 50 fc at bench top level
 - Power
 - General purpose power strip, 120 VAC, 20 A on walls at 3'-6" AFF at all bench areas
 - 208 VAC, 30 A, single-phase on walls at 3'-6" AFF
 - As required by equipment
 - Communications
 - Telephone receptacle at bench
 - Data connection at bench
 - One 4" conduits to roof with weather-head for cables to test antennas



Typical TEF Radio Staging Room

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

d. TEF Radio Repair Bay

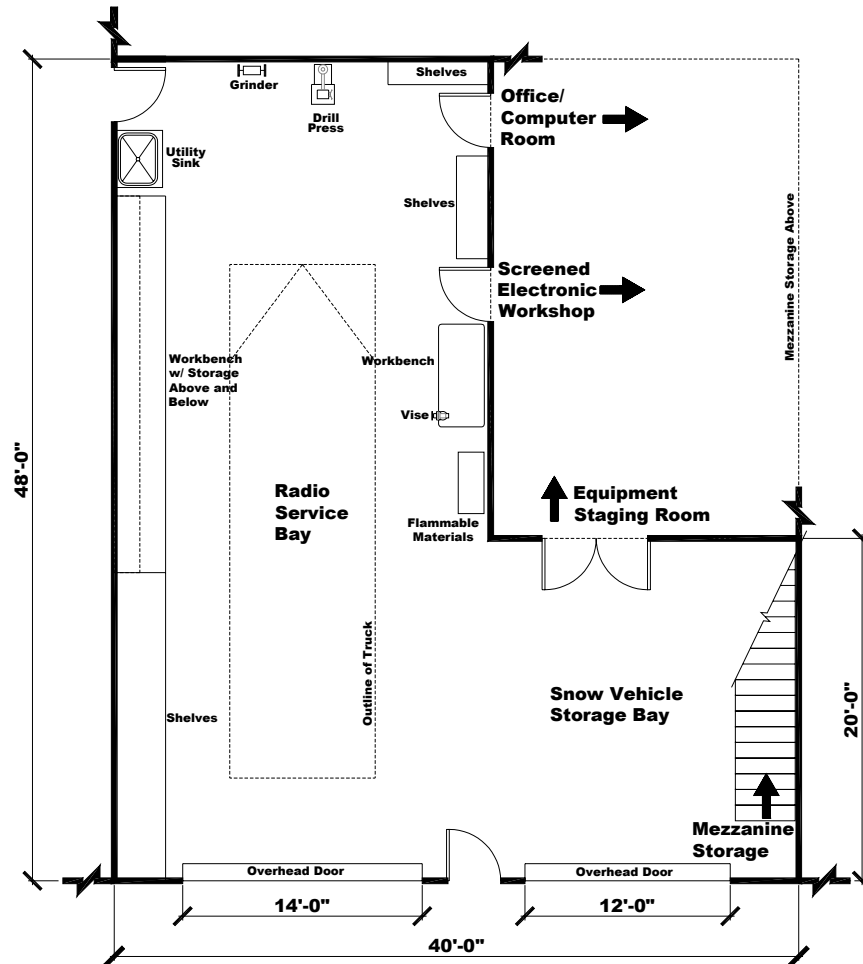
- i. **Function:** Secure storage area designated for radio equipment for pending projects
- ii. **Relationship to Other Areas:** Adjacent to TEF Radio Screened Workshop and Radio Office/Computer Room
- iii. **Critical Dimensions:** 18'-0" vertical clearance
- iv. **Equipment/Furnishings:**
 - Severe use workbenches, grinder, drill press
 - Shelving units, bulk storage rack, flammable materials cabinet
- v. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water resistant concrete, with integral non-metallic light reflective hardener and chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant 3/4" plywood walls up to 8' high around shop
 - Ceiling: Painted and coated with sound-absorbing insulation
 - Doors -
 - Exterior overhead door: high-lifting sectional, steel, insulated, 14' x 14' (Large Bay) and 12' x 12' (Small Bay) with view panels, automatic operator, interior and exterior push button controls, and lockout on exterior
 - Personnel doors to meet applicable code exit requirements
- vi. **Structural:**
 - Control joints in floor slab at adequate spacing
- vii. **Mechanical:**
 - HVAC - heated to 70 degrees
 - As required by equipment
- viii. **Plumbing:**
 - Utility sink with hot and cold water
 - Trench drain with removable cover at overhead doors to sediment and oil interceptor (one each)
 - Compressed air line with cut-off valve, separator, regulator with gauge, and quick disconnects at 4'-0" AFF every 15' around shop. Provide disconnects for 1/2" impact tools
 - As required by equipment
- ix. **Electrical:**
 - Lighting
 - Fluorescent, 75 fc at floor level
 - Power
 - General purpose power strip, 120 VAC, 20 A on walls at 3'-6" AFF at all bench areas and duplex receptacles every 6' around the shop walls
 - Overhead pull down reel, 120 VAC, 20 A

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- 208 VAC, 30 A, single-phase on walls at 3'-6" AFF
- As required by equipment
- Communications
 - Voice/data: 2 universal jacks at work bench (CAT6—see WSDOT Cable Stds)



Typical TEF Radio Repair Bay

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

11) TEF Equipment Areas

(Refer to the Office Modules presented above)

- a. **WMS Band Two - Module A**
 - i. Adjacent to Financial Analyst and Office Assistant
- b. **Financial Analyst - Module H**
 - i. Adjacent to WMS Band Two and shared office with Office Assistant
- c. **Office Assistant - Module H**
 - i. Adjacent to WMS Band Two and shared office with Financial Analyst
- d. **Equipment Analyst - Module B**
 - i. Adjacent to WMS and Financial Analyst
- e. **Equipment Shop Supervisor - Module B**
 - i. Adjacent to Equipment Repair Bays
 - ii. Adjacent to and in sight of Service Writer
- f. **Customer Service Writer - Module E**
 - i. Adjacent to Reception and Shop Equipment Supervisor
- g. **Equipment Parts Specialist I - Module H**
 - i. Adjacent to Parts Counter and shared office with Equipment Parts Specialist II
- h. **Equipment Parts Specialist II - Module H**
 - i. Adjacent to Parts Counter and shared office with Equipment Parts Specialist I
- i. **Reception Area**
 - i. **Function:** Dedicated area for customers to drop off and pick up vehicles for maintenance
 - ii. **Relationship to Other Areas:** Adjacent to Customer Service Writer
 - iii. **Equipment/Furnishings:**
 - Guest chairs
 - 10 file cabinets, 4 key racks 3' x 2', scheduling board 3' x 2', computer printer
 - iv. **Design Features:**
 - VCT floor covering
 - Acrylic latex-painted metal stud/gypsum board walls
 - Suspended tile ceiling
 - Computer and telephone receptacles

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- Fluorescent lighting, 30 fc at floor level
- Heating to 70 degrees, cooling to 75 degrees
- General purpose duplex receptacles, 120 VAC, 20 A
- Counter between Reception and Service Writer

j. Copy/File/Work Area

- Function:** Dedicated area or alcove for copier, fax machine, printer, files, and storage of a small amount of office supplies
- Relationship to Other Areas:** Access to administrative office areas
- Equipment/Furnishings:**
 - Copier, fax machine, computer printer, 6' x 3' work surface, shelving, file cabinets
 - Voice/data: 4 universal jacks (CAT6—see WSDOT Cable Stds)
- Design Features:**
 - VCT floor covering
 - Acrylic latex-painted metal stud/gypsum board walls
 - Suspended tile ceiling
 - Computer and telephone receptacles
 - Fluorescent lighting, 50 fc at counter
 - Heating to 70 degrees, cooling to 75 degrees
 - General purpose duplex receptacles, 120 VAC, 20 A

k. Restroom/Lockers/Showers

- Function:** Separate restroom, locker, and shower facilities for male and female employees
- Relationship to other Areas:**
 - Adjacent to the Lunch/Break room
 - Access to the Repair Bays and Shop Areas
- Design Features:**
 - Ceramic tile floor covering
 - Ceramic tile wall covering
 - Epoxy painted drywall ceiling
 - Full length lockers, one each per maintenance employee with benches for seating
 - Toilets, urinals, wash sinks, and showers as required by code

l. Break Room/Kitchenette

- Function:** Enclosed room for mechanics to take a break with a refrigerator, microwave, sink, oven, vending machines and storage
- Relationship to Other Areas:**
 - Adjacent to the Restrooms and Lockers
 - Access to Repair Bays
- Critical Dimensions:** 10'-0" vertical clearance
- Equipment/Furnishings:**

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3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- Tables, chairs, refrigerator, microwave, sink, vending machines
- m. **Toolbox Storage**
 - i. **Function:** Enclosed secure room for storage of mechanic's personal tool boxes
 - ii. **Relationship to Other Areas:**
 - Adjacent to Repair Bays
 - Access to all Shop Areas
 - iii. **Design Features:**
 - Soil, grease, water, resistant concrete, with integral non-metallic light reflective hardener, and chemical bonded concrete sealer and hardened floor
 - Enamel painted masonry or metal panel or plywood wainscot
 - Painted exposed structure ceiling
- n. **Reference/Manuals Library**
 - i. **Function:** Dedicated for storage of vehicle manuals and an area for two computers to research vehicle data and manuals
 - ii. **Relationship to Other Areas:** Access to Shop areas
 - iii. **Equipment/Furnishings:**
 - Two computers, printer, 24" work surfaces, 42" x 42" corner work surface,
 - shelving units
 - iv. **Design Features:**
 - Carpet or VCT floor covering
 - Acrylic latex-painted metal stud/gypsum board walls or metal panel or plywood wainscot
 - Suspended tile ceiling
 - Computer and telephone receptacles
 - Fluorescent lighting at 50 fc at desk level
 - General purpose duplex receptacles, 120 VAC, 20 A
- o. **Portable Equipment Storage Area**
 - i. **Function:** Area for storage of portable shop equipment including ladders, jacks, and diagnostic equipment
 - ii. **Relationship to Other Areas:**
 - Adjacent to Repair Bays
 - Access to all Shop Areas
 - iii. **Design Features:**
 - Soil, grease, water, resistant concrete, with integral non-metallic light reflective hardener, and chemical bonded concrete sealer and hardened floor
 - Enamel painted masonry
 - Painted exposed structure ceiling

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

p. TEF Parts Storeroom

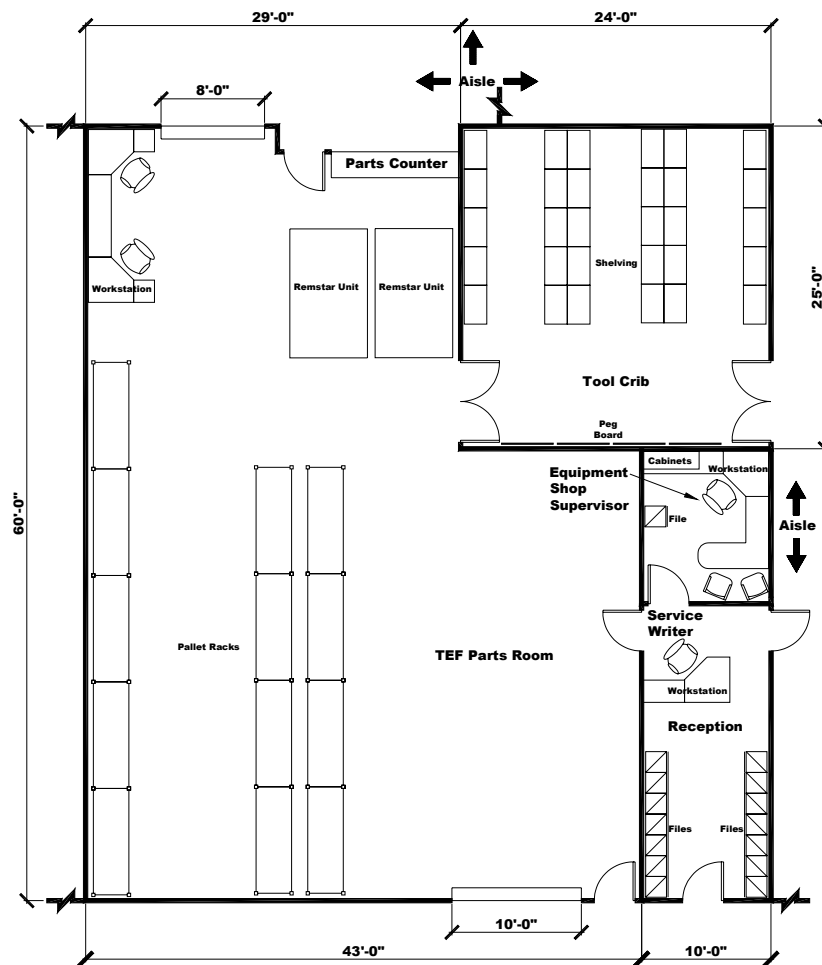
- i. Function:** Dedicated secure area for receiving, storage, and issue of parts, materials, and specialized tools
- ii. Relationship to Other Areas:** Access to all Repair Bays and Shop Areas, and to exterior for deliverables
- iii. Critical Dimensions:** 14'-0" vertical clearance
- iv. Equipment/Furnishings:**
 - Vertical storage shuttle receiver, marker board (at parts issue counter) pallet racks, storage cabinets, computer terminal, printer, and UPS back up
- v. Comments:**
 - Provide issue counter with stainless steel top and sliding window
 - Provide staging area for shipping/receiving with an overhead door to the exterior of the building
 - Forklift access
 - Exterior access for deliveries
 - Provide space outside of the shipping/receiving overhead door for loading/unloading
 - Provide secure enclosures within the Storeroom for tool crib storage
- vi. Architectural:**
 - Finishes
 - Floor: Soil, grease, water resistant concrete with chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant
 - Ceiling: Painted exposed structure
 - Doors
 - Personnel doors with view panels to meet applicable code exit requirements
 - Exterior overhead door: High-lifting sectional, steel, insulated, 10' x 10', with view panels, automatic operator, interior and exterior push button controls, and lockout on exterior
 - Bollards on interior of overhead door (two each)
- vii. Structural:**
 - Control joints in floor slab at adequate spacing
- viii. Mechanical:**
 - Heating to 70 degrees
 - As required by equipment
- ix. Plumbing:**
 - As required by equipment
- x. Electrical:**
 - Lighting
 - Metal halide lighting or fluorescent, 50 fc at floor level

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- Power
 - General purpose duplex receptacles, 120 VAC, 20 A, GFI protected, on walls at 3'-6" AFF
 - Dedicated computer receptacle, 120 VAC, 20 A, adjacent to computer cable conduit
 - Conduit for network computer terminal at Parts Window
 - As required by equipment
- Communications
 - Intercom between Parts Window and outside shipping/receiving door
 - Telephone and conduit for computer at Parts Window and receiving door
 - Buzzer at Parts Window and shipping/receiving door
 - Voice/data: 3 universal jacks at each workstation (CAT6—see WSDOT Cable Std)



Typical TEF Parts Storeroom

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

q. Lube/Compressor Room

i. **Function:**

- Enclosed room for storage and central distribution of lubricants, including chassis grease (CG), engine oil (EO1, EO2), engine coolant (EC), hydraulic oil (HO1, HO2), gear oil (GO), automatic transmission fluid (ATF), and washer fluid
- Space for air compressor, receiver, and refrigerated air dryer

ii. **Relationship to Other Areas:** Access to exterior for deliveries

iii. **Critical Dimensions:** 12'-0" vertical clearance

iv. **Equipment/Furnishings:**

- Air compressor (40 HP, 200 Cubic Feet, 150 psi), air dryer, above grade fluid storage tanks, air piston and diaphragm pumps
- Above ground fluid storage tanks for CG, EO1, EO2, EC, HO1, HO2, GO, and ATF; plastic drum for washer fluid
- Above ground waste oil storage tank

v. **Comments:**

- Exterior access for deliveries
- Acoustically and physically separated from other areas to prevent migration of noise, and fumes
- Locate hose lubrication reels such that lube delivery hoses can reach all points in the bays.

vi. **Architectural:**

- Finishes
 - Floor: Soil, grease, water resistant concrete with chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant
 - Ceiling: Painted exposed structure
- Doors
 - Double 3'-0" wide hollow metal door with interior exit device to meet applicable code exit requirements
 - No thresholds
- Acoustical separation from other areas
- Grated area below tanks to serve as spill sump

vii. **Structural:**

- Control joints in floor slab at adequate spacing
- Structure as needed to support equipment
- Raised concrete housekeeping pad under compressors and air dryers
- Containment sumps (below storage tanks and drums) covered with grating

viii. **Mechanical:**

- Maintain temperature range at 60 to 80 degrees Fahrenheit
- As required by equipment

Section V—Space Needs Program

3. Maintenance Shops Program

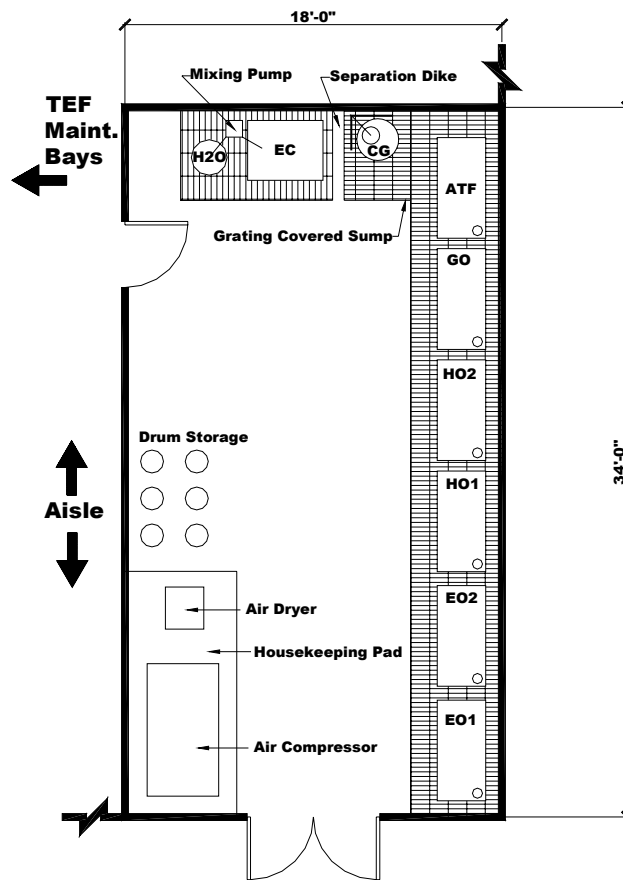
E. Typical Spaces: Physical and Environmental Requirements

ix. Plumbing:

- 3/4" water hose bib with standard faucet 2'-0" AFF
- Compressed air line with cut-off valve, separator, regulator with gauge, lubricator, and quick disconnect on wall at 4'-0" AFF for each lubricant pump
- Tank mount all lubricant pumps except Chassis Grease which will be hoist mounted, and the EC diaphragm pump which will be wall mounted
- Provide siphon kit for wall mounted pump
- Water tank with float valve for water to EC diaphragm pump
- As required by equipment

x. Electrical:

- Lighting: Fluorescent, 30 fc at floor level
- Power
 - General purpose duplex receptacles, 120VAC, 20A, GFI protected, on walls at 3'-6" AFF
 - As required by equipment



Typical Lube/Compressor Room

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

r. TEF Heavy Duty Repair Bay (Flat)

- i. Function:** Perform overhauls and major repairs on large vehicles
- ii. Relationship to Other Areas:**
 - Adjacent to Common Work Area
 - Access to Parts Storeroom
- iii. Critical Dimensions:**
 - 18'-0" vertical clearance to hook of the bridge crane above
 - 20'-0" wide by 60'-0" long
- iv. Equipment/Furnishings:**
 - Severe use workbench with vise (one per bay)
 - Lubrication reel on rack with CG, EO1, EO2, EC, HO1, HO2, GO, and ATF (one per two bays)
 - Five-ton bridge crane with lifting height of 18'-0". Crane must cover all parts of bays front to back.
- v. Comments:**
 - Drive-through configuration
 - Locate hose lubrication reels such that lube delivery hoses can reach all points in the bays.
- vi. Architectural:**
 - Finishes
 - Floor: Soil, grease, water, resistant concrete, with integral non-metallic light reflective hardener, and chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant
 - Ceiling: Painted exposed structure
 - Doors
 - Personnel doors with view panels to meet applicable code exit requirements
 - Exterior overhead door: High-lifting sectional, steel, insulated, 16' width x 14' height, with view panels, automatic operator, interior and exterior push button controls, and lockout on exterior
 - Bollards on interior of overhead door (two each) to protect door rails.
- vii. Structural:**
 - Control joints in floor slab at adequate spacing
 - Structure as needed to support five-ton bridge crane equipment, and lubrication reels
- viii. Mechanical:**
 - Wall mounted overhead vehicle exhaust system with 6" exhaust hose on a motorized reel with integral exhaust fan and automatic fan switch. Ensure it does not conflict with bridge crane.
 - Ventilation as required by code.
 - Heating to 70 degrees; in-floor radiant preferred.

Section V—Space Needs Program

3. Maintenance Shops Program

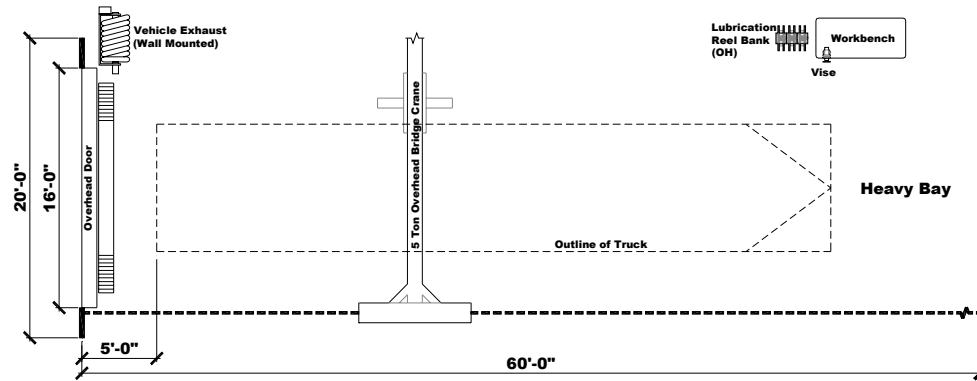
E. Typical Spaces: Physical and Environmental Requirements

- As required by equipment.
- ix. Plumbing:**
 - Trench drain at overhead door with removable cover to sediment and oil interceptor
 - Lube reel banks with CG, EO1, EO2, EC, HO1, HO2, GO, and ATF at end of bay; (shared, one each per two bays)
 - 3/4" water hose bib with standard faucet at rear of bay 2'-0" AFF (one per bay)
 - Compressed air line with cut-off valve, separator, regulator with gauge, lubricator, and quick disconnects at 4'-0" AFF (between bay doors); provide disconnects for 1/2" and 1" impact tools at locations to be determined during detailed design
 - As required by equipment
- x. Electrical:**
 - Lighting: Fluorescent lighting between bays and overhead doors, 75 fc at floor level
 - Power
 - Welding outlet, centrally located, 208 VAC, 1 ph, 50 A and 480 VAC, 3 ph, 30 A at 3'-6" AFF (one per bay)
 - Dedicated computer receptacle, 120 VAC, 20 A, adjacent to computer cable conduit
 - General purpose duplex receptacles, 120 VAC, 20 A, GFI protected, on walls, columns, and between overhead doors, at 3'-6" AFF
 - As required by equipment
 - Communications
 - Computer conduit on columns at each bay

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements



Typical TEF Heavy Duty Repair Bay (Flat)

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

s. **TEF Light Duty Bay (Flat)**

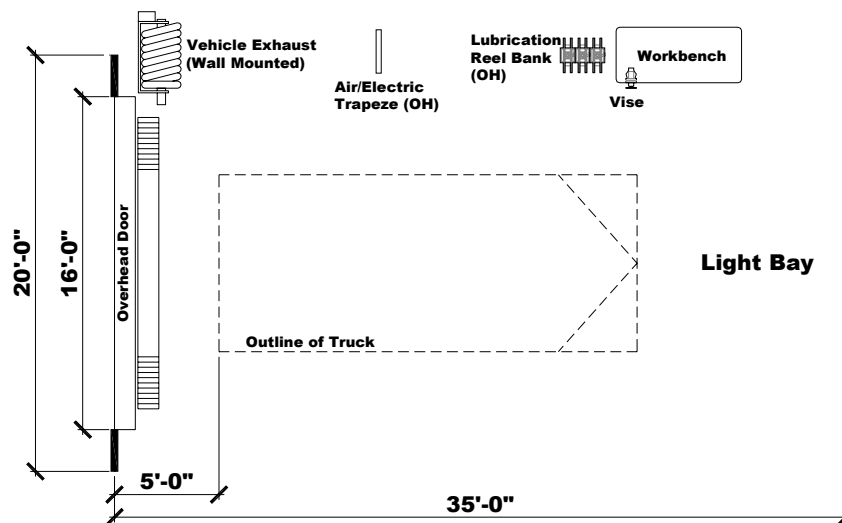
- i. **Function:** Perform preventive maintenance and provide lubrication on vehicles less than one ton
- ii. **Relationship to Other Areas:**
 - Adjacent to Common Work Area
 - Access to Parts Storeroom
- iii. **Critical Dimensions:**
 - 18'-0" vertical clearance to structure and fixtures above
 - 20'-0" wide by 35'-0" long
- iv. **Equipment/Furnishings:**
 - Severe use workbench with vise (one per bay)
 - Lubrication reel with CG, EO1, EO2, EC, HO1, HO2, GO, and ATF (one per two bays)
 - Air/electric trapeze
- v. **Comments:**
 - Drive-through configuration
 - Locate hose lubrication reels such that lube delivery hoses can reach all points in the bays.
- vi. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water, resistant concrete, with integral non-metallic light reflective hardener, and chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant
 - Ceiling: Painted exposed structure
 - Doors
 - Personnel doors with view panels to meet applicable code exit requirements
 - Exterior overhead door: high-lifting sectional, steel, insulated, 16' width x 14' height, with view panels, automatic operator, interior and exterior push button controls, and lockout on exterior
 - Bollards on interior of overhead door (two each) to protect door rails.
- vii. **Structural:**
 - Control joints in floor slab at adequate spacing
 - Structure to support lubrication reels
- viii. **Mechanical:**
 - Overhead vehicle exhaust system with 6" exhaust hose on a motorized reel with integral exhaust fan and automatic fan switch
 - Ventilation as required by code.
 - Heating to 70 degrees; in-floor radiant preferred.
 - As required by equipment
- ix. **Plumbing:**

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- Trench drain at overhead door with removable cover to sediment and oil interceptor
 - Lube reel banks with CG, EO1, EO2, EC, HO1, HO2, GO, and ATF at end of bay (shared, one each per two bays)
 - 3/4" water hose bib with standard faucet at rear of bay 2'-0" AFF (one per bay)
 - Compressed air line with cut-off valve, separator, regulator with gauge, lubricator, and quick disconnects on air/electric drop "trapeze" between each bay (at mid bay) and at 4'-0" AFF (between bay doors); provide disconnects for 1/2" and 1" impact tools
 - As required by equipment
- x. **Electrical:**
- Lighting: Metal halide lighting between bays and overhead doors, 75 fc at floor level
 - Power
 - Dedicated computer receptacle, 120 VAC, 20 A, adjacent to computer cable conduit
 - Welding outlet, centrally located, 208 VAC, 1 ph, 50 A and 480 VAC, 3 ph, 30 A at 3'-6" AFF (one per bay)
 - Air/electric drop "trapeze" mounted quad receptacle, 120V AC, 20 A, GFI protected, between bays (at mid bay)
 - General purpose duplex receptacles, 120 VAC, 20 A, GFI protected, on walls, columns, and between overhead doors, at 3'-6" AFF
 - As required by equipment
 - Communications
 - Computer conduit on columns at each bay



Typical TEF Light Duty Bay (Flat)

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- t. **TEF Light Duty Bay (Lift)**
 - i. **Function:** Perform preventive maintenance and provide lubrication on vehicles less than one ton with lifting capability
 - ii. **Relationship to Other Areas:**
 - Adjacent to Common Work Area
 - Access to Parts Storeroom
 - iii. **Critical Dimensions:**
 - 18'-0" vertical clearance to structure and fixtures above
 - 20'-0" wide by 35'-0" long
 - iv. **Equipment/Furnishings:**
 - Severe use workbench with vise (one per bay)
 - Lubrication reel with CG, EO1, EO2, EC, HO1, HO2, GO, and ATF (one per two bays)
 - 18,000 lb. Two-post, surface-mounted lift
 - Air/electric trapeze
 - v. **Comments:**
 - Drive-through configuration
 - Locate hose lubrication reels such that lube delivery hoses can reach all points in the bays.
 - vi. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water, resistant concrete, with integral non-metallic light reflective hardener, and chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant
 - Ceiling: Painted exposed structure
 - Doors
 - Personnel doors with view panels to meet applicable code exit requirements
 - Exterior overhead door: high-lifting sectional, steel, insulated, 16' width x 14' height, with view panels, automatic operator, interior and exterior push button controls, and lockout on exterior
 - Bollards on interior of overhead door (two each) to protect door rails
 - vii. **Structural:**
 - Control joints in floor slab at adequate spacing
 - Structure to support lubrication reels
 - viii. **Mechanical:**
 - Overhead vehicle exhaust system with 6" exhaust hose on a motorized reel with integral exhaust fan and automatic fan switch
 - Ventilation as required by code.
 - Heating to 70 degrees; in-floor radiant preferred.
 - As required by equipment

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

ix. Plumbing:

- Trench drain at overhead door with removable cover to sediment and oil interceptor
- Lube reel banks with CG, EO1, EO2, EC, HO1, HO2, GO, and ATF at end of bay (shared, one each per two bays)
- 3/4" water hose bib with standard faucet at rear of bay 2'-0" AFF (one per three bays)
- Compressed air line with cut-off valve, separator, regulator with gauge, lubricator, and quick disconnects on air/electric drop "trapeze" between each bay (at mid bay) and at 4'-0" AFF (between bay doors); provide disconnects for 1/2" and 1" impact tools
- As required by equipment

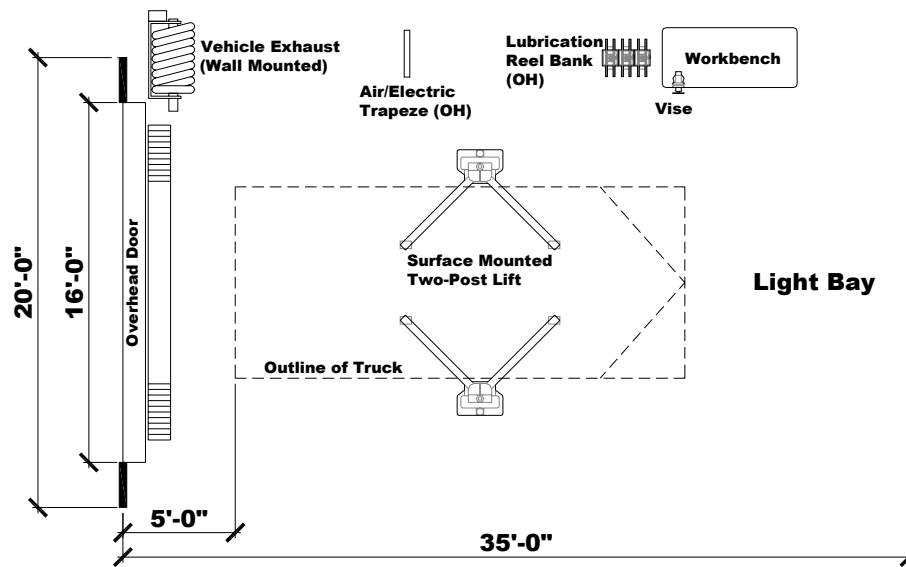
x. Electrical:

- Lighting: Metal halide lighting between bays and overhead doors, 75 fc at floor level
- Power
 - Dedicated computer receptacle, 120 VAC, 20 A, adjacent to computer cable conduit
 - Welding outlet, centrally located, 208 VAC, 1ph, 50 A and 480 VAC, 3 ph, 30 A at 3'-6" AFF (one per bay)
 - Air/electric drop "trapeze" mounted quad receptacle, 120 VAC, 20 A, GFI protected, between bays (at mid bay)
 - General purpose duplex receptacles, 120 VAC, 20 A, GFI protected, on walls, columns, and between overhead doors, at 3'-6" AFF
 - As required by equipment, including lift
- Communications
 - Computer conduit on columns at each bay

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements



Typical TEF Light Duty Bay (Lift)

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

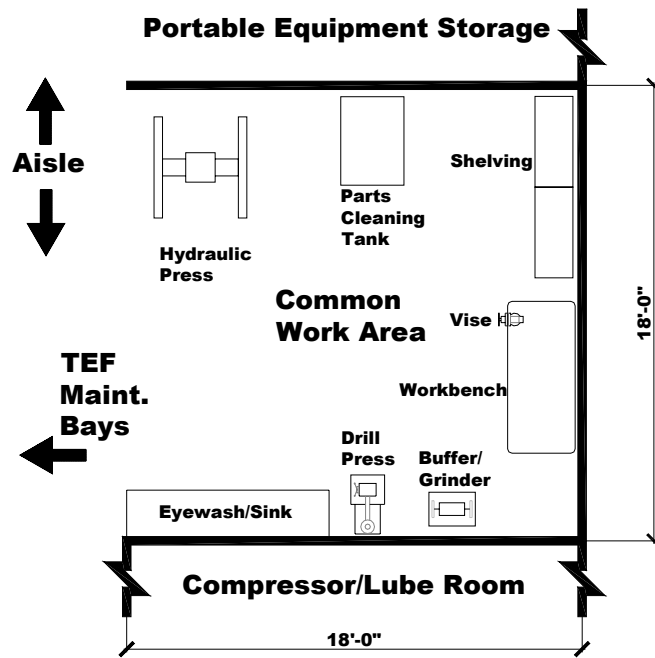
u. Common Work Area

- i. **Function:** Common area used by mechanics for repair of components used on buses
- ii. **Relationship to Other Areas:**
 - Adjacent to Repair Bays
 - Access to Parts Room and applicable equipment storage area
- iii. **Critical Dimensions:** 14'-0" vertical clearance
- iv. **Equipment/Furnishings:**
 - Severe use workbench with vise
 - 50-ton hydraulic press, drill press, brake lathe, buffer/grinder, parts cleaning tank (*State supplied*)
- v. **Comments:** Forklift access
- vi. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water, resistant concrete, with integral non-metallic light reflective hardener, and chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant
 - Ceiling: Painted exposed structure
 - Doors : None
- vii. **Structural:**
 - Control joints in floor slab at adequate spacing
 - Structure as needed to support equipment
- viii. **Mechanical:**
 - General ventilation
 - Minimum four air changes per hour (fans may be wall or roof mounted)
 - As required by equipment
 - Heating to 70 degrees
- ix. **Plumbing:**
 - Compressed air line with cut-off valve, regulator with gauge, lubricator, and quick disconnect at 4'-0" AFF; provide disconnects for 1/2" and 1" impact tools at locations to be determined during detailed design
 - As required by equipment
- x. **Electrical:**
 - Lighting
 - Fluorescent, 100 fc
 - Power
 - General purpose duplex receptacles, 120 VAC, 20 A, GFI protected, on walls and columns
 - As required by equipment

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements



Typical Common Work Area

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

v. **TEF Fabrication Bay**

- i. **Function:** Designated bay for fabrication and installation of components on all vehicles
- ii. **Relationship to Other Areas:**
 - Adjacent to Welding Shop
 - Access to Steel Storage
- iii. **Critical Dimensions:**
 - 18'-0" vertical clearance to the hook of the bridge crane above
 - 20'-0" wide by 60'-0" long
- iv. **Equipment/Furnishings:** Five-ton overhead bridge crane
- v. **Comments:** Drive-through configuration
- vi. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water, resistant concrete, with integral non-metallic light reflective hardener, and chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant
 - Ceiling: Painted exposed structure
 - Doors
 - Personnel doors with view panels to meet applicable code exit requirements
 - Exterior overhead door: high-lifting sectional, steel, insulated, 16' width x 14' height, with view panels, automatic operator, interior and exterior push button controls, and lockout on exterior
 - Bollards on interior of overhead door (two each) to protect door rails
- vii. **Structural:**
 - Control joints in floor slab at adequate spacing
 - Structure as needed to support 5-ton bridge crane equipment
- viii. **Mechanical:**
 - Special ventilation as required by welding equipment
 - Vacuum system for collection of debris from fabrication process
 - Ventilation as required by code.
 - Heating to 70 degrees; in-floor radiant preferred.
 - As required by equipment
- ix. **Plumbing:**
 - Trench drain at overhead doors with removable cover to sediment and oil interceptor
 - 3/4" water hose bib with standard faucet at rear of bay 2'-0" AFF
 - Compressed air line with cut-off valve, separator, regulator with gauge, lubricator, and quick disconnect at 4'-0" AFF; provide disconnects for 1/2" and 1" impact tools at locations to be determined during detailed design

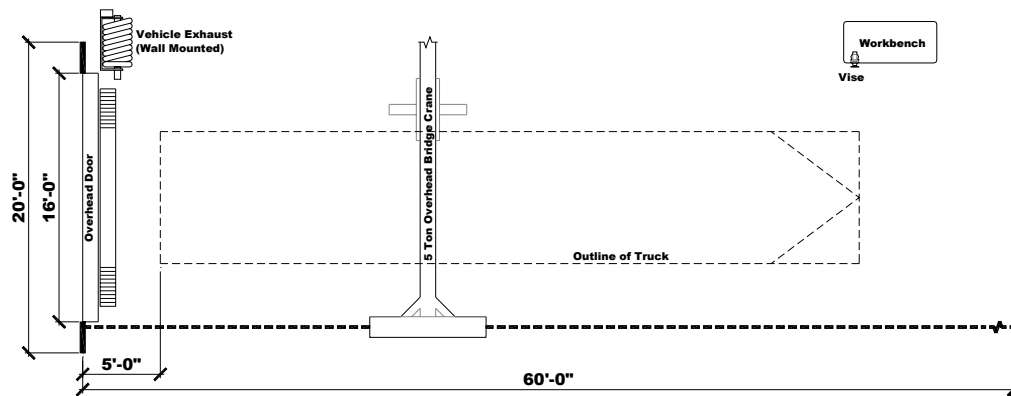
Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

x. Electrical:

- Lighting
 - Metal halide lighting between bays and overhead doors, 75 fc at floor level
- Power
 - Welding outlets, 208 VAC, 1 ph, 50 A and 480 VAC, 3 ph, 30 A at 3'-6" AFF each bay
 - General purpose duplex receptacles, 120 VAC, 20 A, GFI protected, on walls, at 3'-6" AFF
 - As required by equipment



Typical TEF Fabrication Bay

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

w. **TEF Welding Shop and Steel Storage**

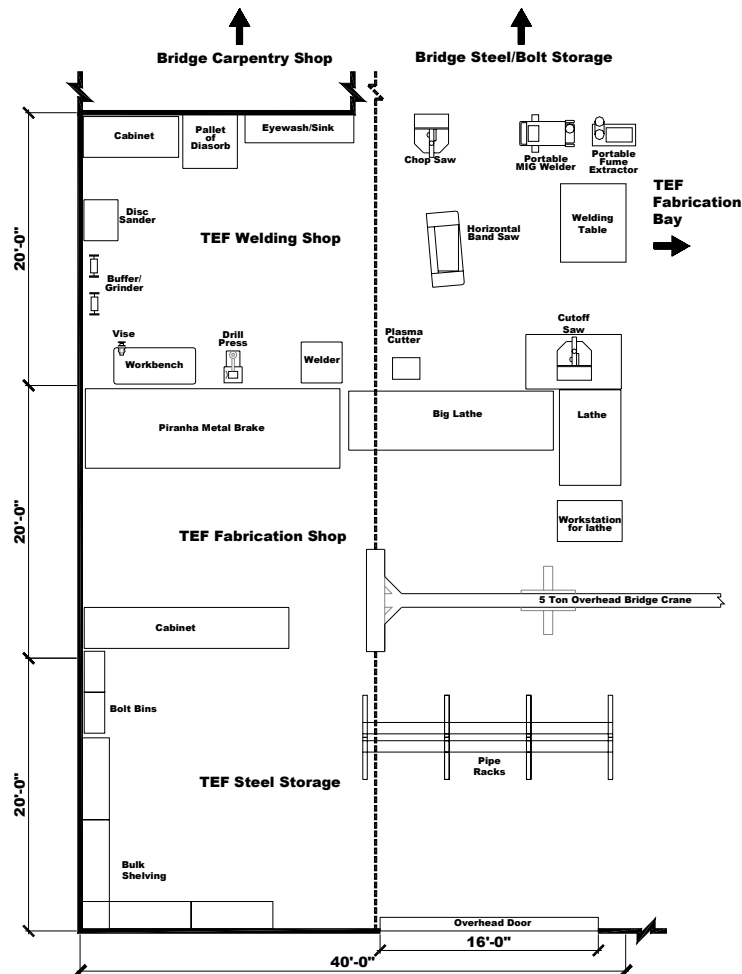
- i. **Function:** Designated shop for fixed welding equipment, cutting, welding and fabrication of metal components
- ii. **Relationship to Other Areas:** Adjacent to Fabrication Bay
- iii. **Critical Dimensions:** 18'-0" vertical clearance to the hook of the bridge crane above
- iv. **Equipment/Furnishings:**
 - Five-ton overhead bridge crane
 - Severe use workbench with vise, welding table, welders, welding screens, horizontal band saw, cutoff saws, and portable fume extractors (*State supplied*)
 - Steel storage racks, pipe storage racks
- v. **Comments:** Access to overhead bridge crane throughout the shop, including over the TEF Steel storage and TEF Fabrication Shop.
- vi. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water, resistant concrete, with integral non-metallic light reflective hardener, and chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant
 - Ceiling: Painted exposed structure
 - Doors
 - Personnel doors with view panels to meet applicable code exit requirements
 - Exterior overhead door: high-lifting sectional, steel, insulated, 16' x 14', with view panels, automatic operator, interior and exterior push button controls, and lockout on exterior
 - Bollards on interior of overhead door (two each) to protect door rails.
- vii. **Structural:**
 - Control joints in floor slab at adequate spacing
 - Structure as needed to support five-ton bridge crane equipment
- viii. **Mechanical:**
 - Special ventilation as required by welding equipment
 - Vacuum system for collection of debris from fabrication process
 - As required by equipment
- ix. **Plumbing:**
 - Trench drain at overhead doors with removable cover to sediment and oil interceptor
 - Compressed air line with cut-off valve, separator, regulator with gauge, lubricator, and quick disconnect at 4'-0" AFF; provide disconnects for 1/2" and 1" impact tools at locations to be determined during detailed design
- x. **Electrical:**

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- Lighting
 - Metal halide lighting 75 fc at floor level
- Power
 - Welding outlets, 208 VAC, 1 ph, 50 A and 480 VAC, 3 ph, 30 A at 3'-6" AFF
 - General purpose duplex receptacles, 120 VAC, 20 A, GFI protected, on walls, at 3'-6" AFF
 - As required by equipment



Typical TEF Welding Shop and Steel Storage

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

12) Bridge Maintenance Areas

(Refer to the Office Modules presented above)

- a. **Bridge Supervisor - Module B**
 - i. Adjacent to the Lead Technician office and Crew Room
 - ii. Voice/data: 3 universal jacks (CAT6—see WSDOT Cable Stds)
- b. **Lead Technician - Module G**
 - i. Adjacent to the Bridge Supervisor office and Crew Room
 - ii. Access to the Bridge Maintenance Shop
 - iii. Voice/data: 3 universal jacks (CAT6—see WSDOT Cable Stds)
- c. **Locker Alcove**
 - i. **Function:** Locker Room where Maintenance Technicians can store personal items
 - ii. **Relationship to Other Areas:**
 - Adjacent to the Bridge Supervisor offices and Crew Room
 - Access to Restrooms/Showers
 - iii. **Critical Dimensions:** 8'-0" vertical clearance
 - iv. **Equipment/Furnishings:**
 - Storage cabinets
 - Crew lockers full height and 36" wide by 18" deep
- d. **Bridge Crew Room**
 - i. **Function:** Crew Room where field crews can report and receive information about specific projects
 - ii. **Relationship to Other Areas:**
 - Adjacent to the Plant Manager
 - Access to Restroom/Lockers/Showers
 - iii. **Critical Dimensions:** 10'-0" vertical clearance
 - iv. **Equipment/Furnishings:**
 - Tables, chairs, 3' wide work carrels, overhead storage bins
 - Plan storage cabinet
 - v. **Architectural:**
 - Finishes
 - Floor: VCT floor covering
 - Walls: enamel painted (gypsum)
 - Ceiling: Suspended tile ceiling
 - Doors - Personnel doors to meet applicable code exit requirements
 - vi. **Structural:**
 - Control joints in floor slab at adequate spacing
 - vii. **Mechanical:**
 - HVAC

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

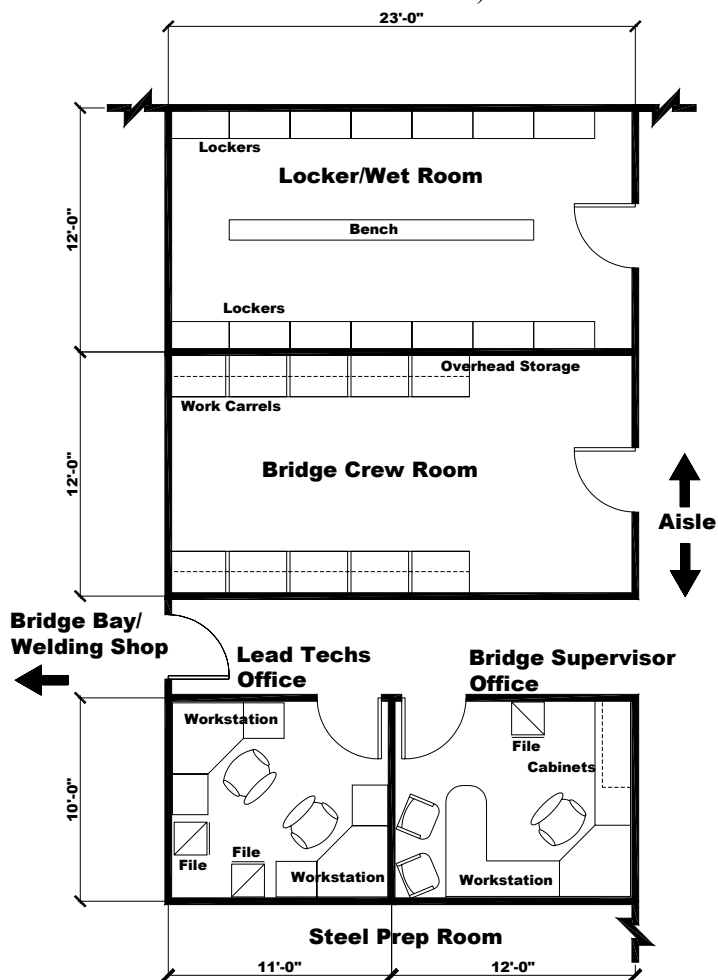
- Cooling to 75 degrees
- Heating ventilation as required by code

viii. Plumbing:

- Large utility sink in locker/wet room

ix. Electrical:

- Lighting
 - Fluorescent 50 fc at desk height
 - Task lighting below overhead storage bins at each work carrel
- Power
 - General purpose duplex receptacle, 120 VAC, 20 A, on walls, at 3' - 6" AFF
 - Dedicated computer receptacle, 120 VAC, 20 A, adjacent to computer cable conduit
- Communications
 - Voice/data: 3 universal jacks in crew room (CAT6—see WSDOT Cable Stds)



Typical Bridge Crew Room

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

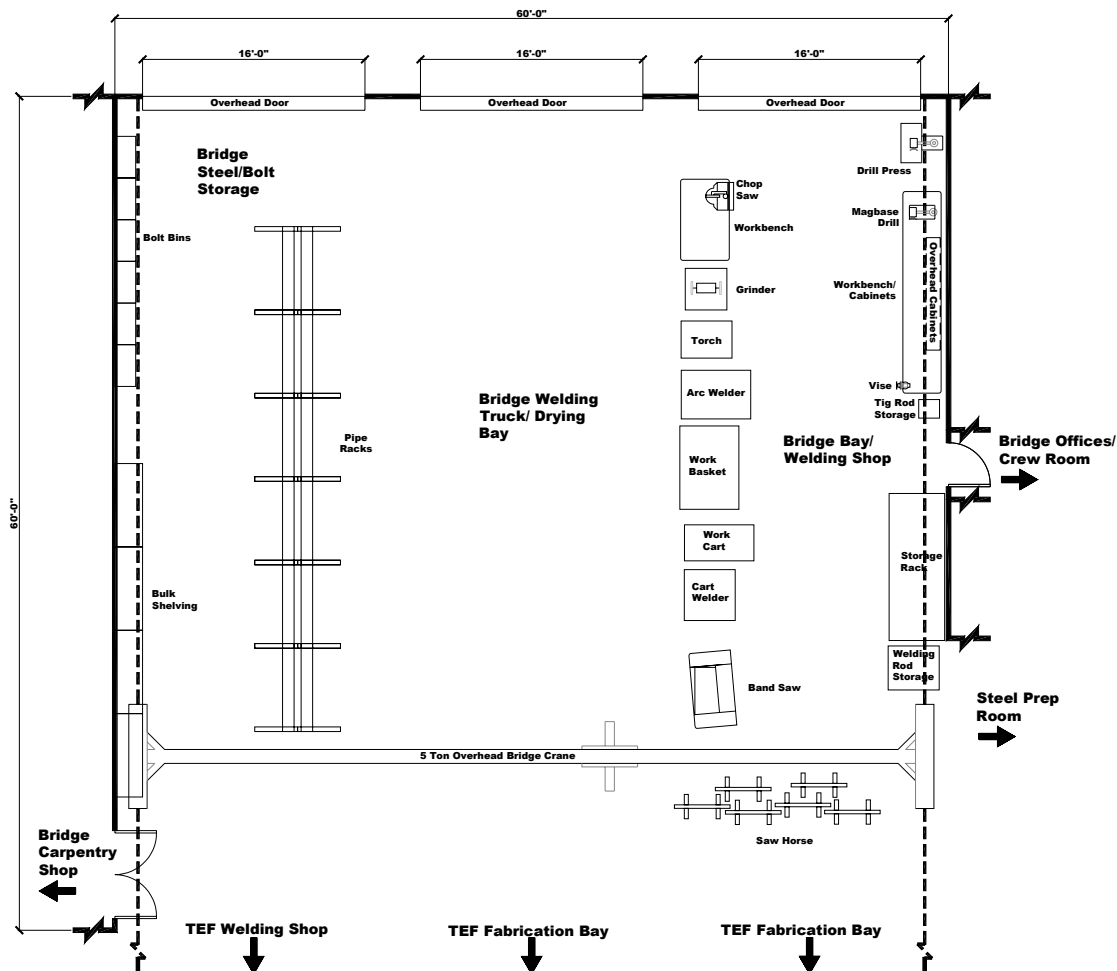
- e. **Bridge Bolt/Steel Storage and Welding Bay/Shop**
- i. **Function:** Designated area for storage of steel, bolts and other field gear used to maintain bridges and an area to fabricate bridge components
 - ii. **Relationship to Other Areas:**
 - Adjacent to Carpentry Shop
 - Access to the Crew Areas and Steel Prep Area
 - iii. **Critical Dimensions:** 18'-0" vertical clearance to the hook of the bridge crane above
 - iv. **Equipment/Furnishings:**
 - Five-ton overhead bridge crane
 - Severe use workbench with vise, welding table, welders, welding screens, horizontal band saw, cutoff saws, and portable fume extractors
 - Steel storage racks, pipe storage racks, bolt bins
 - v. **Comments:** Access to overhead bridge crane
 - vi. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water, resistant concrete, with integral non-metallic light reflective hardener, and chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant
 - Ceiling: Painted exposed structure
 - Doors
 - Personnel doors with view panels to meet applicable code exit requirements
 - Exterior overhead door: high-lifting sectional, steel, insulated, 16' width x 14' height, with view panels, automatic operator, interior and exterior push button controls, and lockout on exterior
 - Bollards on interior of overhead door (two each)
 - vii. **Structural:**
 - Control joints in floor slab at adequate spacing
 - Structure as needed to support five-ton bridge crane equipment
 - viii. **Mechanical:**
 - Special ventilation as required by welding equipment
 - Vacuum system for collection of debris from fabrication process
 - Ventilation as required by code.
 - Heating to 70 degrees; in-floor radiant preferred.
 - As required by equipment
 - ix. **Plumbing:**
 - Trench drain at overhead doors with removable cover to sediment and oil interceptor. Ensure floor slopes to drains.

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- Compressed air line with cut-off valve, separator, regulator with gauge, lubricator, and quick disconnect at 4'-0" AFF; provide disconnects for 1/2" and 1" impact tools at locations to be determined during detailed design
- Large utility sink
- x. **Electrical:**
 - Lighting
 - Fluorescent lighting 75 fc at floor level
 - Power
 - Welding outlets, 208 VAC, 1 ph, 50 A and 480 VAC, 3 ph, 30 A at 3'-6" AFF
 - General purpose duplex receptacles, 120 VAC, 20 A, GFI protected, on walls, at 3'-6" AFF
 - As required by equipment



Typical Bridge Bolt/Steel Storage and Welding Bay/Shop

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

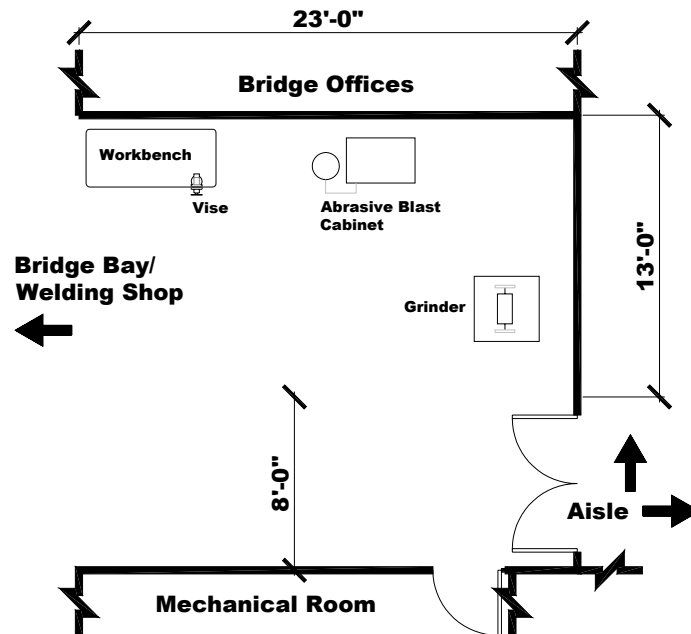
f. **Bridge Steel Prep Area**

- i. **Function:** Designated area for preparing steel components for fabrication and welding
- ii. **Relationship to Other Areas:**
 - Adjacent to Bridge Shop
 - Access to the Crew Areas
- iii. **Critical Dimensions:** 18'-0" vertical clearance to the structure
- iv. **Equipment/Furnishings:** Severe use workbench with vise, abrasive blast cabinet, grinder
- v. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water, resistant concrete, with integral non-metallic light reflective hardener, and chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant
 - Ceiling: Painted exposed structure
 - Doors: None
- vi. **Structural:**
 - Control joints in floor slab at adequate spacing
- vii. **Mechanical:**
 - Heated to 70 degrees
 - As required by equipment
- viii. **Plumbing:**
 - Compressed air line with cut-off valve, separator, regulator with gauge, lubricator, and quick disconnect at 4'-0" AFF; provide disconnects for 1/2" and 1" impact tools at locations to be determined during detailed design
 - As required by equipment
- ix. **Electrical:**
 - Lighting
 - Metal halide lighting 75 fc at floor level
 - Power
 - Welding outlets, 208 VAC, 1 ph, 50 A and 480 VAC, 3 ph, 30 A at 3'-6" AFF
 - General purpose duplex receptacles, 120 VAC, 20 A, GFI protected, on walls, at 3'-6" AFF
 - As required by equipment

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements



Typical Bridge Steel Prep Area

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

g. **Bridge Carpentry Shop**

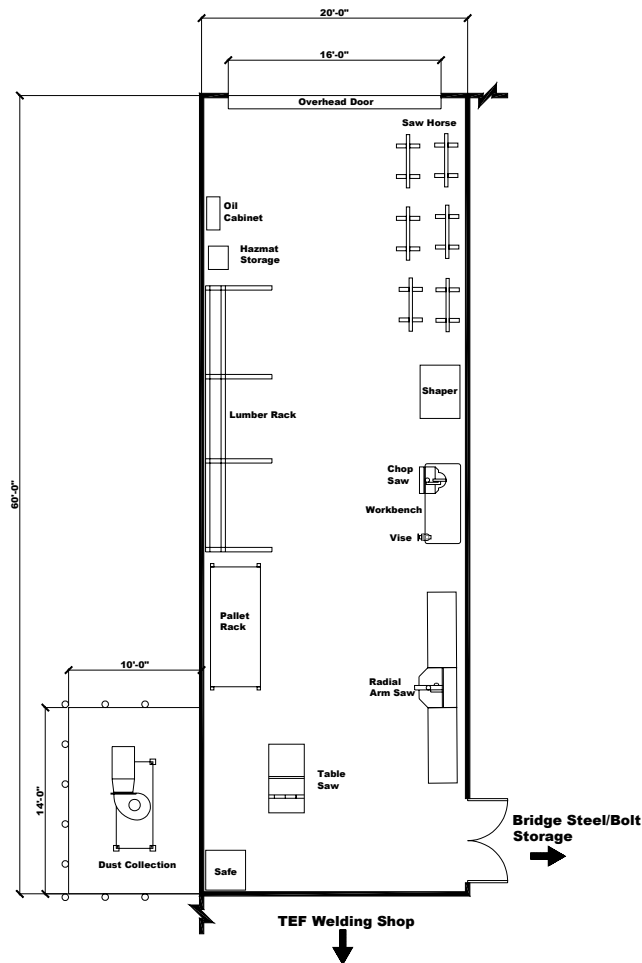
- i. **Function:** Designated area to fabricate templates for bridge components and maintain wood components on bridges
- ii. **Relationship to Other Areas:**
 - Adjacent to Bridge Shop
 - Access to the Crew Areas
- iii. **Critical Dimensions:** 18'-0" vertical clearance to the structure above
- iv. **Equipment/Furnishings:**
 - Dust collector
 - Severe use workbench with vise, table saw, radial arm saw, cutoff saws,
 - Lumber storage racks, flammable storage cabinet, pallet rack
- v. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water, resistant concrete, with integral non-metallic light reflective hardener, and chemical bonded concrete sealer and hardener
 - Walls: Soil and grease resistant
 - Ceiling: Painted exposed structure
 - Doors
 - Personnel doors with view panels to meet applicable code exit requirements
 - Exterior overhead door: high-lifting sectional, steel, insulated, 16' width x 14' height, with view panels, automatic operator, interior and exterior push button controls, and lockout on exterior
 - Bollards on interior of overhead door (two each) to project door rail.
- vi. **Structural:**
 - Control joints in floor slab at adequate spacing
- vii. **Mechanical:**
 - Dust collection ducted to wood working equipment
 - Ventilation as required by code.
 - Heating to 70 degrees; in-floor radiant preferred.
 - As required by equipment
- viii. **Plumbing:**
 - Trench drain at overhead doors with removable cover to sediment and oil interceptor
 - Compressed air line with cut-off valve, separator, regulator with gauge, and quick disconnect at 4'-0" AFF; provide disconnects for 1/2" impact tools at locations to be determined during detailed design
- ix. **Electrical:**

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- Lighting
 - Fluorescent lighting 75 fc at floor level
- Power
 - General purpose duplex receptacles, 120 VAC, 20 A, GFI protected, on walls, at 3'-6" AFF
 - As required by equipment



Typical Bridge Carpentry Shop

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

13) Core Areas

a. Conference Room

- i. **Function:** Large room for meetings of 30 people
- ii. **Relationship to Other Areas:** Access to administrative areas
- iii. **Equipment/Furnishings:**
 - Conference table and chairs, white board
 - Ceiling-mounted video projector, projector screen (*State supplied*)
- iv. **Design Features:**
 - VCT floor covering
 - Acrylic latex-painted metal stud/gypsum board walls
 - Suspended tile ceiling
 - 3 universal data jacks (CAT6, see WSDOT Cable Stds)
 - Computer and telephone receptacles
 - Fluorescent lighting at 50 fc at table level
 - Air conditioned
 - General purpose duplex receptacles, 120 VAC, 20 A

b. Restroom/Showers

- i. **Function:** Separate restroom, locker, and shower facilities for male and female employees
- ii. **Relationship to other Areas:** Access to the Crew Areas and Shop Areas
- iii. **Design Features:**
 - Ceramic tile floor covering
 - Ceramic tile wall covering
 - Epoxy painted drywall ceiling
 - Toilets, urinals, wash sinks, and showers as required by code
- iv. **Mechanical:**
 - Heating to 70 degrees
 - Exhaust to outside

c. Kitchenette

- i. **Function:** Dedicated area for a refrigerator, microwave, sink, vending machines and storage
- ii. **Relationship to Other Areas:** Adjacent to the Restrooms and Lockers
- iii. **Critical Dimensions:** 8'-0" vertical clearance
- iv. **Equipment/Furnishings:** Refrigerator, microwave, sink, vending machines
- v. **Design Features:**
 - VCT floor covering
 - Laminate countertops
 - Enamel painted masonry walls
 - Suspended tile ceiling

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- Computer and telephone receptacles
 - Fluorescent lighting at 30 fc at table level
 - General purpose duplex receptacles, 120 VAC, 20 A
 - vi. **Plumbing:** Water for sink and refrigerator
 - vii. **Mechanical:**
 - Heating to 70 degrees
 - Exhaust to outside
 - viii. **Electrical:** As required for equipment
- d. **Custodial Closet**
- i. **Function:** Enclosed area for janitorial supplies and mop sink
 - ii. **Relationship to Other Areas:** Adjacent to restrooms
 - iii. **Equipment/Furnishings:**
 - Mop sink
 - Metal shelving
 - iv. **Design Features:**
 - Ceramic tile floor covering or sealed concrete
 - Ceramic tile wall covering or sealed concrete
 - Water supply to mop sink
 - Secure area
 - v. **Plumbing:** Water for sink and refrigerator
 - vi. **Mechanical:**
 - Heating to 70 degrees
 - Exhaust to outside
- e. **Telecom/Data Room**
- i. **Function:** Secured area for telephone, radio, and computer network systems
 - ii. **Relationship to Other Areas:** Centrally located for ease of distribution of wiring to the facility
 - iii. **Equipment/Furnishings:**
 - IT ladder rack
 - Telephone board
 - Open equipment/termination rack
 - Fiber and Copper terminations
 - iv. **Design Features:**
 - Card access
 - Depressed floor, VCT floor covering
 - Acrylic latex-painted metal stud/gypsum board walls
 - Suspended tile ceiling
 - Fluorescent lighting
 - Dry fire suppression system
 - Air conditioned to 72 degrees; separate system
 - General purpose GIF duplex receptacles, 120 VAC, 20 A

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

14) Exterior Areas

a. Washout Area

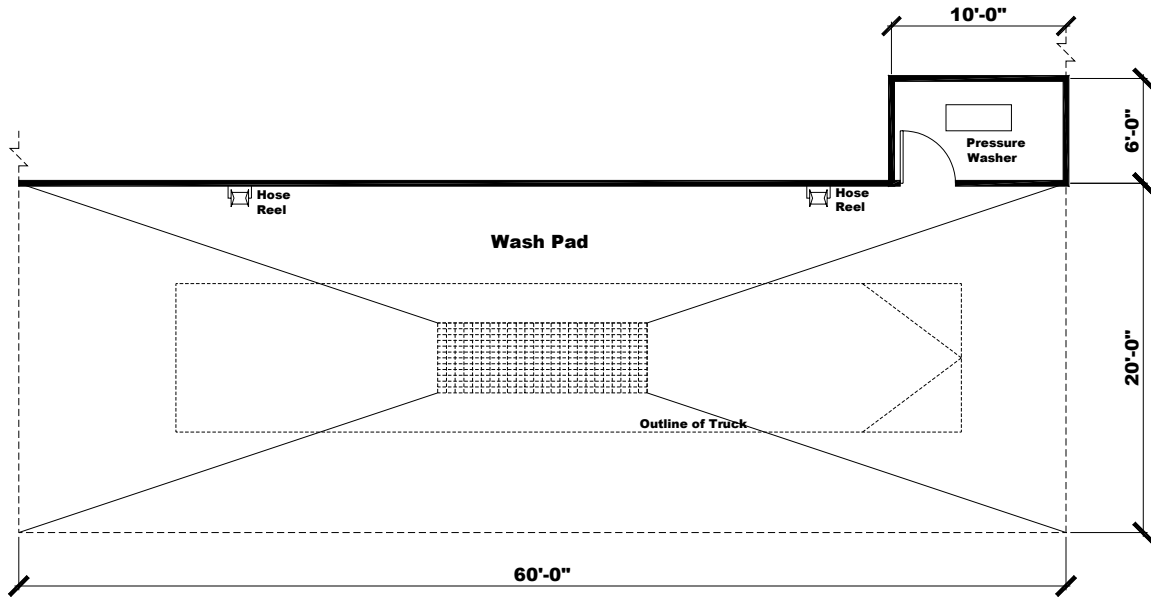
- i. **Function:** Canopy-covered bay for washing of large truck undercarriages and equipment components
- ii. **Relationship to Other Areas:**
 - Access to all other maintenance areas
 - Physically separated from other areas to prevent migration dirt and water
- iii. **Critical Dimensions:**
 - 16'-0" vertical clearance
 - 20'-0" wide by 60'-0" long
- iv. **Equipment/Furnishings:** High pressure wash system (4 GPM) with hot water and soap injector and hand lances
- v. **Comments:** Drive-through configuration
- vi. **Architectural:**
 - Finishes
 - Floor: Soil, grease, water, slip resistant concrete
 - Walls: Soil and grease resistant
 - Ceiling: Painted exposed structure
 - Doors: None
 - Bollards on exterior at jambs columns
- vii. **Structural:**
 - Control joints in floor slab at adequate spacing
- viii. **Mechanical:**
 - 10" flue, or as needed, for the high pressure washer
 - High pressure wash equipment room heated to 40 degrees
 - As required by equipment
- ix. **Plumbing:**
 - Water
 - 3/4" water hose bib with standard faucet at rear of bay 2'-0" AFF
 - Wash connections to hand lance on both sides of bay
 - 2" water connection to fill trucks, both top and side fill
 - 3/4" water supply to high pressure washer, 40 to 60 GPM
 - Natural gas: 3/4" NPT supply, 332 CFH to high pressure washer
 - Heavy grated drain area (with removable cover) to sediment and oil interceptor. Refer to current WSDOT design standards.
 - As required by equipment
- x. **Electrical:**
 - Lighting

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- Fluorescent lighting, water tight lighting located between wall and centerline of lane, 30 fc
- Power
 - Waterproof duplex receptacles, 120 VAC, 20 A, GFI protected, on walls at 3'-6" AFF



Typical Washout Area

Section V—Space Needs Program

3. Maintenance Shops Program

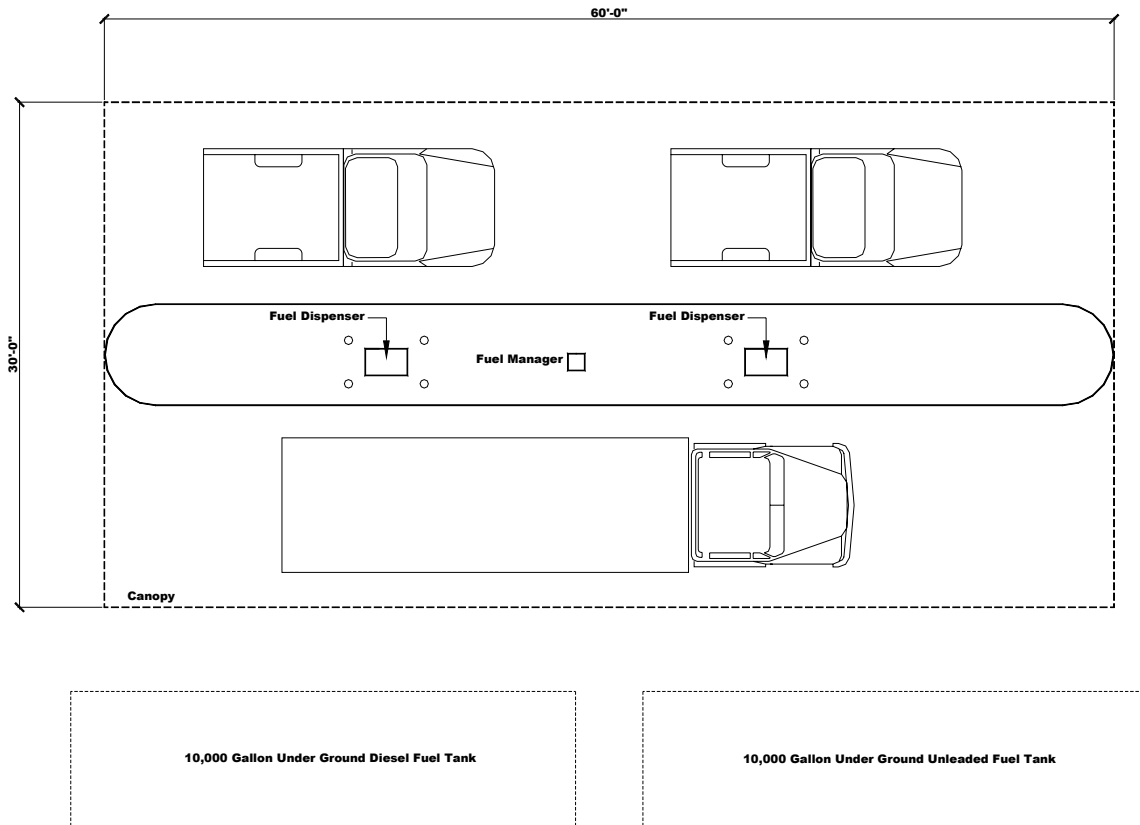
E. Typical Spaces: Physical and Environmental Requirements

- b. Fuel Island (Refer to Fuel Island Specifications, Section VII-3.C)**
- i. Function:** Dedicated canopy covered area for fueling diesel and gasoline vehicles and equipment
 - ii. Relationship to Other Areas:** Adjacent to enclosed vehicle parking
 - iii. Critical Dimensions:**
 - 16'-0" vertical clearance
 - 12'-0" wide by 60'-0" long (each lane with equipment)
 - iv. Equipment/Furnishings:**
 - Emergency safety shower/eyewash
 - Diesel fuel dual hose dispenser, unleaded gasoline dual hose dispenser, and fuel management system, 10,000-gallon fuel storage tanks
 - v. Architectural:**
 - Finishes
 - Floor: Soil, grease, water, slip resistant concrete
 - Walls: Soil and grease resistant
 - Ceiling: Painted exposed structure in lanes
 - Bollards located at entrance to each lane and protecting the fuel dispensers
 - vi. Structural:**
 - Sealed control joints in floor slab at adequate spacing
 - Structure as needed to support equipment
 - vii. Mechanical:**
 - As required by equipment
 - viii. Plumbing:**
 - Trench drain with removable traffic rated grating to sediment and oil interceptor (one each per lane)
 - Product and vapor recovery piping as required to and from fuel tanks and dispensers
 - Compressed air line with cut-off valve, separator, regulator with gauge, lubricator, and quick disconnects for 1/2" hose and tools
 - Water connection to emergency shower/eye wash
 - As required by equipment
 - ix. Electrical:**
 - Lighting
 - Fluorescent 50 fc at ground level
 - All lighting on emergency power circuit
 - Power
 - Fuel dispensers and submersible pumps on emergency power circuit
 - Provide emergency shut off device
 - As required by equipment
 - Fuel Management System: Provide power and signal conduit from island terminals to TEF Supervisor office

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements



Typical Fuel Island

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

- c. **Radio Tower (Refer to Radio Tower Specifications, Section VII-3.B)**
 - i. **Function:** Radio tower and supporting equipment building.
 - ii. **Relationship to Other Areas:** Locate near highest elevation on site.
 - iii. **Critical Dimensions:**
 - Tower height: 150 feet plus 20' lightening rod
 - iv. **Equipment/Furnishings:**
 - As required in specifications
 - v. **Architectural:**
 - Concrete or VCT floor covering, enamel painted gypsum or concrete walls
 - Air conditioned cooled
 - 8" conduit to TEF Radio Shop
 - Computer and telephone receptacles
 - General purpose duplex receptacles, 120 VAC, 20 A
 - Personnel door to meet applicable code exit requirements
 - vi. **Structural:**
 - Sealed control joints in floor slab at adequate spacing
 - Structure as needed to support equipment
 - vii. **Mechanical:**
 - As required by equipment
 - viii. **Plumbing:**
 - None
 - ix. **Electrical:**
 - Lighting
 - Fluorescent lighting 50 fc at bench top height
 - All lighting on emergency power circuit
 - Power
 - Provide emergency power backup
 - As required by equipment

Section V—Space Needs Program

3. Maintenance Shops Program

E. Typical Spaces: Physical and Environmental Requirements

Intentionally Blank

Section V—Space Needs Program

4. Site Development Program

4. Site Development Program:

A. General:

- 1) **Planning and Site Development Goals:** Refer to the Planning Goals and Site Development Goals of the Design Guidelines (See Section VI—1.A and 1.B and Section VI—2.G).

B. Functional and Operational Characteristics:

1) Comply with Local Requirements:

- a. **Reference:** The Due-Diligence Report (Attachment Section VII--1.D) provides a detailed description of the Site and associated issues and regulations.
- b. **Summary:** See Section II—2, Site Description, for a summary of information extracted from the Due-Diligence Report above.
- c. **Compliance Required:** Proposer is responsible for complying with all zoning and code requirements as interpreted by the appropriate local building officials and cannot rely solely on the Summary and Due-Diligence Report.

C. Space Needs:

1) Summary of Needs:

- a. **Employee and Visitor Parking:**
 - i. Employees: provide maximum allowed by code
 - ii. Visitors: 50 stalls
 - iii. Accessible (ADA): as required by code
 - iv. Motorcycles: 10 stalls
 - v. Bicycles: 20 bike rack spaces
- b. **Motorpool, Service and Maintenance Vehicles:**
 - i. Service vehicles for Administration Building: 8 stalls
 - ii. Motorpool: 20 stalls
 - iii. Maintenance vehicles: Refer Section V—3.C

- 2) **Detailed Space Requirements:** Detailed Site space needs requirements can be found in the following locations in the RFP:

- a. Summary of space needs: Section V—3.C.1
- b. Detailed space needs requirements: Section V—3.C.2
- c. MDG Program: Attachment Section VII—2.B

Section V—Space Needs Program

4. Site Development Program

D. Relationships

D. Relationships:

During the Design Charrette a number of possible site layouts were explored, analyzed, and refined. In general, the solutions favored three distinct, separate buildings: the administrative office building located near the intersection of Marvin Road and 32nd Avenue; with one shop building located within easy walking distance of the Administrative Office Building and the second shop building, (the equipment building) located near the southern edge of the site and accessible from a separate access road, 30th Avenue.

1) Conceptual Site Layouts:

Conceptual Diagrams Show Relationships: The diagrams included in the MDG Program report provide useful background information to the Proposer about the relationships between site activities. During the Design Charrette, these diagrams were developed and discussed by the State's staff. Both affirmative and negative comments are included on the diagrams and are included in the detailed report from Maintenance Design Group included as attachment Section VII –2.B.

- a. **Non-Constraint:** *The example layouts in the MDG Program report are included for information only and should not constrain the Proposer to any specific design.* They are only provided to illustrate the potential relationships between the various shops. During the selection process, credit will be given to innovative and efficient solutions to the State's needs. The State expects to receive proposals that exceed the quality and efficiency of the diagrams included in the MDG Program report.

Section V—Space Needs Program

4. Site Development Program

E. Physical and Environmental Requirements—Site Development

E. Physical and Environmental Requirements--Site Development:

1) General Site Information:

a. Olympia Area Environmental Conditions:

✓ Temperature

Winter: ASHRAE median of extremes: 7oF

Design: 17oF

Summer: ASHRAE 1/10 of 1%: 90oF (DB) - 68oF (WB)

Daily range: 32oF

Design: 85oF (DB) - 66oF (WB)

	<u>Mar 21</u>	<u>Jun 21</u>	<u>Sep 21</u>	<u>Dec 21</u>
✓ Day & twilight hours:	13	17	13	9.5
✓ Daylight hours:	12	16	12	8.5

✓ Heating degree days: 5709

✓ Cooling degree days: 94

✓ Prevailing winds - Winter: S/SW 6.7 MPH

✓ Prevailing winds - Summer: S/SW 6.7 MPH

b. Site description:

- i. The 38 acre Project Site is located on the west side of Marvin Road at the intersection of 32nd Avenue, north of Hawks Prairie in Thurston County. The site is undeveloped and shows no previous signs of development.
- ii. The Site consists of three distinct, contiguous sections:
 - The 15 acre central section of the site has frontage on both Marvin Road to the east and 32nd Avenue to the north. The site is currently covered with second growth coniferous trees. This section of the site slopes gently down from the southeast corner at elevation 214ft. to the northwest corner at elevation 198ft.
 - The 20 acre southern section of the site is rectangular and has no frontage. The site is currently pastureland. This section of the site slopes at about 5% from elevation 242ft. at the southern property line to where it intersects with the northern boundary, coincident with the central section of the site, at 210ft.

Section V—Space Needs Program

4. Site Development Program

E. Physical and Environmental Requirements—Site Development

- The 3 acre northern section of the site has frontage on both Marvin Road to the east and 32nd Avenue to the south. The site is triangular and is currently covered with second growth coniferous trees. This section of the site slopes from the northern tip at elevation 218ft. to the southwestern corner at 198ft. Seasonal runoff appears to pond at the lower elevations, near the center of this section of the site.
- c. Existing vegetation:**
 - i. The site is currently covered the second growth forest, predominantly Douglas Fir. The understory is dense, healthy, and almost entirely native species including Knickknick, Salal, Oregon grape, Evergreen huckleberry, sword ferns, and a variety of mosses.
 - ii. Much of this native plant material should be salvaged before clearing begins and reused as part of the site development.
- d. Site access:**
 - i. Marvin Road is a major arterial under the jurisdiction of the City of Lacey. Marvin Road is also a class II bike way. 32nd Avenue NE is a local collector street.
 - ii. The existing Marvin Road pavement is 24 feet wide, fog-line to fog-line. Approximately 3 feet of paved shoulder is available. Existing pavement on 32nd Avenue is 23ft. wide, with a narrow band of crushed rock surfacing on the shoulders.
- e. Frontage improvements:**
 - i. Local standards require improvements along Marvin Road and 32nd Avenue: See the Due-diligence report for preliminary information (Section VII—1.D)
- f. Traffic mitigation:** Traffic impact fees are unknown. A traffic analysis will be performed by WSDOT staff.
- g. Stormwater system:**
 - i. A stormwater management system is required.
- h. Street lighting:**
 - i. Use city of Lacey standards for poles and luminaries:
- i. Sanitary sewer:** The sewer utility requires installation of sewer lines "to and through" the property being developed.
 - i. There are two sewer lines within a reasonable distance of the site to which the building lines could connect, one on the north end of the site, and one approximately 1200 feet south of the site.
- j. Water system:**

Section V—Space Needs Program

4. Site Development Program

E. Physical and Environmental Requirements—Site Development

- i. A 14-inch ductile iron line with hydrants is installed on the east side of Marvin Road.
- ii. A 12" PVC branch with hydrants is installed on the north side of 32nd Avenue NE to, and through, the Project site.
- iii. The owning utility is the City of Lacey.
- iv. Hose bibbs: Within the limits of LEED requirements, provide at least one hose bibb every 150' around the exterior of buildings exterior and within 25' of each entry.
- v. Irrigation system: Within the limits of LEED requirements, provide an irrigation system capable of sustaining the landscaping proposed for the site.

k. Stormwater management:

- i. Stormwater Disposal:
 - The 100-year, 24-hour event precipitation figure is 5 inches.
 - No stormwater may be discharged off site, so detention facilities are required.

l. Power and communications: Power and communications are available on both Marvin Road and 32nd Avenue NE. Assume these systems will be relocated to underground facilities.

- i. Power and phone lines on overhead poles are located on the west side of Marvin road.
- ii. Power and phone lines on overhead poles are located on the south side of 32nd avenue.

m. Natural Gas:

- i. Natural gas is available to the site with a 4 inch main on the East side of Marvin Road and a 2 inch line on 32nd Avenue NE.

2) Main Entrance Drive:

a. Main Entrance Drive(s):

- i. Services:
 - Lighting - minimum of 2 FC.
 - New utilities should be located within new right-of-ways and underground.
 - Provide curb, gutter, paving, median, and sidewalks
- ii. Equipment and furnishings:

Section V—Space Needs Program

4. Site Development Program

E. Physical and Environmental Requirements—Site Development

- Lighting fixtures and poles should have the same finish and be compatible with overall project appearance with a style compatible with building design. Poles should be spun aluminum.

iii. General:

- Retain existing vegetation wherever possible.
- Entry drive points should be no closer than 40ft. to an intersection.
- Provide pavement arrows and wording in addition to directional signage.
- Provide stop bars and crosswalks as needed.

b. Transit Loading Area:

i. Services:

- Lighting - minimum of 2 FC.

ii. General:

- Locate a safe, convenient and comfortable covered waiting area for transit vehicle passengers, including seating. It should be as close to the main entry as possible (coordinate with local transit authority) and, if feasible, connected to the building with a covered passageway.
- Transit passengers and other pedestrians should not be required to cross driveways or parking lots in order to reach the main entrance and lobby of the building.
- If bus transportation enters the site, circulation should occur along main access drives and not circulate through parking areas or conflict with circulation of pedestrian or vehicle corridors.
- Signage and design should conform to the adopted design standards of local transit authority.

3) Service Drive:

a. Service Drive Requirements:

i. Services:

- Provide curb and gutter.
- Lighting - minimum of 2 FC

ii. General:

- Provide screening from streets, walks and adjacent lots.

Section V—Space Needs Program

4. Site Development Program

E. Physical and Environmental Requirements—Site Development

- Service drives should be separated from normal vehicular streets/drives to minimize congestion and bicycle/pedestrian conflicts.
- Consolidate spaces for service, delivery and recycled material.
- All truck maneuvering into and out of loading areas or docks should occur in areas that do not conflict with the circulation of traffic in the parking areas or pedestrian/bicycle walkways.
- All circulation lanes should be a min. of 12' wide -- turning radii should be designed to accommodate a 65' long tractor trailer combination vehicle.

4) Parking:

a. Parking Requirements:

i. Services:

- Provide curb and gutter.
- Lighting – provide 0.6 fc, maximum uniformity ratio (average to minimum) of 4:1.
- Provide CCTV with ability to view all employee parking; tie into master monitoring control panel.

ii. Parking spaces required: provide the maximum allowed by code or as follows:

- Employees: maximum allowed by code
- Visitors: 50 stalls
- Accessible (ADA): as required by Code
- Service vehicles: 8 stalls
- Motor pool: 20 stalls
- Motorcycles: 10 stalls
- Bicycles: 20 bike rack spaces
- Maintenance vehicles: Refer Section V—3.C

iii. General:

- Parking lot design should minimize environmental impact on site and be located to accommodate tree preservation.
- Screen parking from collector streets, access, service & main entry drives.
- Provide planting areas to avoid large paved areas; median areas to incorporate drainage retention swales.
- Provide parking stall sizes as required by code.
- Visitor parking should be convenient to main entry to building.

Section V—Space Needs Program

4. Site Development Program

E. Physical and Environmental Requirements—Site Development

- Tire stops should be installed in all parking stalls where a vehicle overhang encroaches on a sidewalk, pedestrian or bike path, landscaping or building wall. Tire stops should be a minimum of 6" high, installed so the edge is 4' from the obstruction.
- Maximum slope in parking areas should not exceed 2%; drain away from walkways.
- Motorcycle stalls should not be less than 4' wide by 7'-6" long.
- Bike parking should be covered, secure and should accommodate locking of bike frame and both wheels with chains, cables, or U-shaped bike locks.
- Where feasible, vehicle parking should be arranged in clusters of 12 or more spaces.
- Provide separate pedestrian walkways so that pedestrians are not required to share drives used by vehicles.

5) Pedestrian Walkways:

a. Pedestrian Walkway Requirements:

- i. Services:
 - Provide lighting at building entrance areas for 4 fc minimum with a maximum uniformity ratio (average to minimum) of 4:1.
 - Provide minimum walkway lighting of 1 fc.
- ii. Equipment and furnishings:
 - Provide low height light fixtures.
 - Provide bike racks for six visitors near main entry.
- iii. General:
 - Provide all-weather permeable surface on pathways.
 - All sidewalks should be a minimum of 6' wide -- all other pathways should be 6' wide when designed for pedestrians only and 10' wide when shared with bicycles.
 - Marked crosswalks should be installed on all legs of road intersections with public streets.
 - Pedestrian ramps and textured warning strips must comply with code, local standards, and the ADA.

6) Landscape:

a. Landscaping Requirements:

- i. Services:

Section V—Space Needs Program

4. Site Development Program

E. Physical and Environmental Requirements—Site Development

- Within the limits of LEED, provide separately metered water system tied to an irrigation system designed to sustain the installed landscaping.
- Provide keyed host bibbs/hydrants.
- ii. General:
 - Provide natural landscaping to enhance/restore existing landscaping and require minimum maintenance and watering.
 - Provide at least 80% plant material indigenous to the site.
 - Preserve existing vegetation wherever possible.
 - Protect trees in accordance with an arborist's guidelines.
 - Provide soil improvement, plant installation and maintenance in accordance with locally accepted organic agricultural practice and integrated pest management.
 - Provide an automatic irrigation system which is energy and water conserving.
 - Irrigation or sprinkler system for groomed landscape areas should be kept to a minimum.
 - The use of retained storm water and/or "gray water" for irrigation is encouraged.
 - Landscaping solutions which require minimal or no irrigation are encouraged.

7) Signage:

a. Site Signage Requirements:

- i. General:
 - Signage should be architecturally integrated with associated structures and compatible in scale with surroundings.
 - All information and temporary signage should be consistent in design, size, height, color, material and typography.
 - All vehicular regulation signage should conform to the Uniform Traffic Control Devices (MUTCD) standards manual available from Federal Highway Division through the Washington State Dept. of Transportation.
 - Provide lighted facility identification sign: (Seal of State of Washington) and the name of the complex: "Olympic Region Headquarters, Washington State Department of Transportation".

Section V—Space Needs Program

4. Site Development Program

E. Physical and Environmental Requirements—Site Development

- This facility identification should be visible and readable from 300' in each direction from the Marvin Road arterial.

8) Loading Dock:

a. Main Loading Dock Requirements:

- i. Services: provide the following:
 - CO exhaust system.
 - Lighting at a minimum of 10 fc.
 - Service bell.
 - Hot and cold water hose bibbs.
- ii. Equipment:
 - Provide a minimum of one overhead door/loading bay (10' x 8') to Receiving/Shipping.
 - Provide loading dock seals, bumpers, height adjusters and safety lights at each loading bay.
 - Loading docks should be covered a minimum of 6' beyond the edge of the loading dock.
 - Canopy height should be 15' above driving surface.
- iii. General:
 - Locate loading dock adjacent to Receiving/Shipping.
 - Provide stair and ramp, accessible to all bays.
 - Design to prevent damage to building or vehicles when loading/unloading.
 - At least one dock must accommodate a 65' long tractor trailer combination vehicle.

9) Waste Collection / Recycled Materials Storage:

a. Waste and recycled materials storage requirements:

- i. Services: provide the following:
 - Floor drain
 - Lighting at a minimum of 10 fc.
 - Hot and cold water hose bibbs.
- ii. Equipment:
 - Design waste collection storage area to contain State supplied dumpsters and pallet jacks.

Section V—Space Needs Program

4. Site Development Program

E. Physical and Environmental Requirements—Site Development

- Design recycled materials storage to accommodate State supplied recycling containers.
- iii. General:
 - Provide location convenient to freight elevator.
 - Provide exterior covered space.
 - Locate adjacent to Receiving/Shipping.
 - Locate adjacent to service drive.
 - Make accessible to service and public vehicles.
 - Provide space for a large truck to maneuver to empty/exchange recycle containers and dumpsters.
 - Screen with materials architecturally compatible with associated buildings and/or screen with landscaping.
 - Provide enclosure with gate to secure after hours.
 - Avoid conflict between private vehicles and service trucks.

10) Building Entries:

a. Requirements at building entries:

- i. Services:
 - Provide lighting at building entrance areas for 4 fc minimum with a maximum uniformity ratio (average to minimum) of 4:1.
 - Provide electrical receptacle configured in accordance with code.
- ii. Equipment:
 - Design to accommodate State supplied trash receptacles and cigarette urns.
 - Provide bench(s) with backs; compatible with the architectural character of the building and other site furniture.

b. Requirements at passenger loading area:

- i. Services:
 - Provide lighting for 2 fc minimum.
- ii. General:
 - Provide unloading space for 2 passenger vehicles; space can be shared with the transit loading area.
 - Spaces should be parallel to the curb or sidewalk, 8' wide and 20' long plus adequate room to maneuver a typical passenger van.

Section V—Space Needs Program

4. Site Development Program

E. Physical and Environmental Requirements—Site Development

- Loading spaces should not be located in an area that conflicts with vehicle or pedestrian circulation.

Section VI

Design Guidelines

Section VI—Design Guidelines

1. Facility Performance Guidelines

A. Planning Goals

1. Facility Performance Guidelines

A. Planning Goals

Requirements:

The Planning Goals outlined below represent the intent of the State and provide overall direction for the design of the Olympic Region Headquarters Complex. Refer to the Section VI—2--Systems Performance Guidelines for detailed information.

(1) Function and purpose

The purpose of the Project is to provide office space and state of the art maintenance shops for the employees of the Washington State Department of Transportation in order that they may provide services to the citizens of the State. As such the Project should symbolize the most positive aspects of State government. The community and visitors to the region will view the Project from adjacent roadways, thus the architectural design should reflect the functions and purposes of the services in the buildings and the ancillary facilities.

(2) Access and transportation

The physical access to the building should be clearly apparent to the most casual visitor. The design should include access for multiple transportation modes, i.e. private automobile, public transportation, pedestrian, bicycles, taxis, and an assortment of specialized vans, buses, etc. to a greater extent than typical private facilities. Although some transportation methods may be utilized more than others, the site organization should provide equal, safe and convenient access to all.

Access to these facilities is important to the WSDOT Olympic Region. Effective accessibility helps ensure that the Region provides services to its employees and citizens. Public transportation is an important link in the ability of the Region to perform this mission. The availability and capacity of public transportation merits special attention during site design decisions.

(3) Environmental protection

WSDOT has a responsibility to protect the physical environment. Nothing in the design, construction and operation of this facility should harm the environment. The Project should demonstrate how the environment can be protected, or restored, by the presence of the facility.

(4) Energy conservation

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1. Facility Performance Guidelines

A. Planning Goals

The availability of energy over the life of this facility may become more critical. This will cause corresponding changes to the design conditions existent at the initiation of Project. Predominant methods of transportation may change. "Electronic commuting" by employees may become more common. Employees and citizens, in lieu of on-site visits, may utilize teleconferencing and the Internet. Reliance on day-lighting in the building may increase. The designer should strive to meet the LEED Silver standard (as outlined in Section D6020) and should allow for potential energy related changes to affect the facility over time. The facility must be able to adjust to these changes and to potential future energy shortages.

(5) Safety

The safety of employees and visitors is a primary concern of WSDOT. An overview of safety and security considerations should be applied to every aspect of site selection, planning, facility design and operations. The *Capitol Campus Security Study* should be used as a reference. The designer is expected to explore all reasonable options related to safety and personal security while providing access to people with disabilities.

(6) Context

WSDOT strives to make its operations and facilities an integral part of the community. The designer should consider the context of the existing and projected built environment of the neighborhood and the adjacent sites. The objective of establishing an identity for the Region Headquarters should not conflict with the concern that the facility fit within this context.

(7) Flexibility

Change is a constant companion of government. Over time, the functions and needs of many of the initial programs housed in this facility may change significantly. The designer must recognize the certainty of organizational change and allow for it. No program should be allowed to permanently "customize" the initial design such that future modifications become impractical. The designer should anticipate the needs of future occupants and accommodate those needs in the initial construction.

(8) Economy

State buildings are expected to be efficient and spare. In the initial design, and in full life cycle, the facility should exhibit economy of means. Functional efficiency, rentable area, materials, and building systems will be evaluated in this light.

Section VI—Design Guidelines

1. Facility Performance Guidelines

B. Site Goals

B. Site Goals

The Site Goals outlined below represent the intent of the State and provide overall direction for the site development of the Olympic Region Headquarters Complex. Refer to the Section VI—2.G Systems Performance Guidelines, Site Work for detailed information.

(1) Description

a. Location:

The Project is located north of Hawks Prairie, City of Lacey in Thurston County

b. Property:

The 38 acre Project Site is located on the west side of Marvin Road at the intersection of 32nd Avenue, north of Hawks Prairie in Thurston County. The site is undeveloped and shows no previous signs of development.

The Site consists of three distinct, contiguous sections:

- i. The 15 acre central section of the site has frontage on both Marvin Road to the east and 32nd Avenue to the north. The site is currently covered with second growth coniferous trees. This section of the site slopes gently down from the southeast corner at elevation 214ft. to the northwest corner at elevation 198ft.
- ii. The 20 acre southern section of the site is rectangular and has no frontage. The site is currently pastureland. This section of the site slopes at about 5% from elevation 242ft. at the southern property line to where it intersects with the northern boundary, coincident with the central section of the site, at 210ft..
- iii. The 3 acre northern section of the site has frontage on both Marvin Road to the east and 32nd Avenue to the south. The site is triangular and is currently covered with second growth coniferous trees. This section of the site slopes from the northern tip at elevation 218ft. to the southwestern corner at 198ft.. Seasonal runoff appears to pond at the lower elevations, near the center of this section of the site.

c. Utilities:

- i. Utility availability includes: power, telephone, gas, water and sanitary sewer (within a short distance of the site).
- ii. All exterior on-site utilities including, but not limited to, sewers, gas lines, water lines, and electrical, telephone, and communications wires and equipment should be installed and maintained underground.

(2) Microclimate

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1. Facility Performance Guidelines

B. Site Goals

The following weather data is based on statistics provided by the U.S. Weather Bureau station at the Olympia Airport (in Tumwater, Washington).

- a. Precipitation: Average annual rainfall is 50.96" with a wet season beginning usually in October.
- b. Wind: Average annual wind speed is 6.7 MPH in a southwest prevailing direction.
- c. Temperature: Average monthly temperatures are:

<u>Month</u>	<u>High - Low</u>	<u>Month</u>	<u>High - Low</u>
January	43.6 - 30.8	July	77.2 - 48.7
February	49.1 - 32.5	August	76.2 - 48.8
March	52.5 - 32.8	September	71.0 - 45.1
April	58.7 - 35.8	October	60.8 - 39.4
May	65.7 - 40.8	November	50.3 - 34.8
June	70.8 - 46.0	December	45.1 - 32.8

(3) Site design goals

- a. The site and buildings should meet the LEED "silver" standard as outlined in Section VI—2.D60.
- b. The building and other exterior improvements should blend into the environment without appearing intrusive. The entire development should fit with the surroundings; the development should minimally affect the site. Physical improvements on the site should be mitigated by using native plants and materials.
- c. Retain as many healthy trees, undergrowth and natural features of the site as possible.
- d. Special attention should be given to landscape, irrigation design and water retention to enhance the existing site and to mitigate storm water runoff. If economically feasible, collect runoff and "gray-water" for landscape irrigation.
- e. The collection, control and treatment of parking and driveway runoff, and the protection of any adjacent waterways is required. The designer must take particular care to protect waterways in the natural drainage basin.
- f. The use of recycled materials in the design and construction of the site improvements is encouraged. As part of their submittal, designers should indicate where they propose to utilize recycled materials in the Project.
- g. The site development program for private vehicle parking, transit access, bicycle and motorcycle facilities, pedestrian trails, etc., should encourage the use of alternate transportation modes other than private, single

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1. Facility Performance Guidelines

B. Site Goals

occupancy vehicles. Design should emphasize pedestrian access and minimize difficulties of people with disabilities in negotiating site elements between building entries, drop-off locations and parking.

- h. All major buildings should be set back an appropriate distance from the property lines along streets fronting the site. This set back distance should consider impact on the community's space, including transit passenger waiting/drop-off structures, covered walkways, enclosed passageways, "garden" structures, signs, etc., that are incidental to the development of the site.
- i. Where practical, the office building portion of the facility and specifically the office area windows should be oriented to take advantage of day-lighting and views.
- j. Solar orientation should be considered. The buildings long axis should run East and West. Landscaping with deciduous trees that block summer sun should be incorporated into the design.
- k. Design should minimize conflicts between pedestrian and vehicular traffic. Accessible parking should be provided so that path of travel does not cross a vehicular right of way.
- l. Drainage of paving should not be directed over walkways.
- m. Create landforms (berms) using excess cut material to aid in off-site noise deflection and to save on disposal.

(4) Entrance road and other roads or drives

- a. Provide at least one entrance drive with 12' wide traffic lane in each direction. If all entrances are not made accessible, signage should be provided directing people to the accessible entrance.
- b. If signalized driveway exits to public street intersections, provide at least two outbound lanes.
- c. Transit stops and shelters, on-site or in adjacent public right-of-ways, should be designed to the standards of the local transit authority.
- d. All public roads, curbs and sidewalks included in the Project should meet the design and construction requirements of the development guidelines of the permitting regulatory authorities..

(5) Public transportation

The State's policy is to locate and develop its properties with the goal of increasing use of public transportation and enhancing commute trip reduction objectives while meeting business needs.

- a. A number of considerations can make the Project compatible or accessible to public transit or other alternative modes of transportation:

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B. Site Goals

- i. Near or on existing or planned route whose service levels are adequate to attract peak period commuters (minimum 30 minute frequency in non-peak)
- ii. Ability generate off-peak ridership
- iii. Street design facilitates transit and other alternative modes as part of interconnecting grid system.
- iv. Convenient and effective transit linkages to residential neighborhoods
- v. Sidewalks and bike paths access the site
- vi. Parking supply is minimized
- vii. Transit compatible building design
 - Building is oriented to the sidewalk with easy pedestrian access
 - Building is located near the street corner to improve access
 - Parking and driveways are located in the rear
 - Building is accessible from front and rear
 - Bus stop is integrated into the property.
- b. To encourage public transit, a transit stop or shelter should be provided at or near the entrance drive and/or the main building entrance. Transit stops should be located within 600 feet of the building to aid people with disabilities.
- c. Design criteria for public transit access to the Project:
 - i. The site should be designed to allow easy, safe, and rapid transit access to the major building(s) without the transit vehicle leaving the public right-of-way. This may require road widths, turn-offs and curb cuts that vary from existing conditions and/or a master plan design.
 - ii. If necessary, the transit vehicle may be required to cross the property line. If so, the designated driveway for transit and similar vehicles (shuttle buses, vanpools, accessible vans, etc.) should be designed for rapid, convenient and safe access to the passenger loading area with minimum interference from other vehicles.
 - iii. In either instance, safe, convenient and comfortable covered waiting areas for transit vehicle passengers, including seating, should be provided. They should be visually prominent, close to a main entrance of the building and connected to the building by a covered walkway. Transit passengers and other pedestrians should not be required to cross driveways or parking lots in order to reach the main entrance and lobby of the building. It is not necessary that the

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covered walkway be continuous or be directly connected to the building lobby. Transit passengers and drop-offs can be expected to walk short distances without cover.

- iv. The public transit user should be afforded the same or greater priority by the site and building design as that afforded the private vehicle user.
- v. The transit passengers' covered waiting and building access may be shared with private vehicle and taxi drop-off and waiting, van-pool drop-off and pick-up, and access for people with disabilities (but not with staff parking building access).
- vi. In no instance should transit access and/or transit access driveways in the immediate area of the transit stop be shared with building service vehicles.
- vii. The above uses and restrictions should be supported by appropriate exterior site signs or graphics.

(6) Emergency vehicle access

- a. Comply with the Code and local ordinances.

(7) Service access

- Service access is required for a number of functions within the buildings. Service access should allow tractor-trailer trucks to easily use the loading areas. If a recessed loading ramp dock system is not used, then a hydraulic platform should be installed for unloading. See the Space Needs Program (Section V) for those areas that need ready access to the loading dock.

(8) Parking

- a. Provide automobile parking spaces equal to the maximum number of such spaces required by the permitting regulatory authority. All parking and adjacent access drives shall be asphalt or concrete. Provide marked loading areas and marked parking stalls with barrier-free access per requirements of permitting regulatory authority. All required parking and loading spaces and accessible paths of travel through parking lots should be striped.
- b. Within the minimum parking requirement referenced above, provide separate parking for each of the following: staff and visitors with disabilities (both private automobiles and accessible vans), visitors, car and vanpools, employees, service vehicles, motorcycles, and bicycles. Minimize employee parking that is located directly adjacent to the building and reserve it for short-term visitor parking and parking for people with disabilities. Give priority to car and van pool parking by

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locating it close to, but not directly adjacent to, the building. Identify the separate parking areas by appropriate exterior site graphics.

- c. Parking and access proximity to the primary building entrance should follow the priority below:
 - i. Drop-off for people with disabilities.
 - ii. Public transit vehicle waiting/loading.
 - iii. Taxi, vanpool, car-pool and private vehicle drop-off/waiting.
 - iv. Physically disabled parking.
 - v. Service vehicle parking (mail, courier and other small delivery trucks/vans).
 - vi. Visitors' parking.
 - vii. Bicycles.
 - viii. Motorcycles.
 - ix. Vanpool/carpool vehicles.
 - x. State motor pool vehicles.
 - xi. Employees' single occupancy vehicles.
- d. Parking lot design should minimize the environmental impact on site.
- e. Parking lot should be efficient and stress safety by separating pedestrian pathways from roadways with grade changes, berms and landscaping.
- f. Planting areas within the parking areas should be provided to avoid large paved areas uninterrupted by landscaping in accordance with the permitting regulatory authorities.
 - i. Parking areas should have a 6" curb on all sides adjacent to parking and driveway surfaces. .
 - ii. Planting beds should be a minimum of 25-sq. ft. net planting area.
 - iii. Shrubs and ground cover plantings utilized in parking areas should not be a size, within 10 years, which would impede vision within the lot.
- g. Size of parking stalls should be as prescribed in the governing zoning/planning code/ordinance.
- h. All parking areas should be well lit to ensure the security of pedestrians at all hours. Pedestrian routes through parking areas should be clearly designated, convenient and well paved. Provide illumination per IES lighting standards for pedestrian security, no less than required to provide complete illumination of exterior areas leading from the facility to parking areas. Provide at least two foot-candles (2fc) where video

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surveillance is provided unless lower levels can be justified. Provide a separate lighting circuit for perimeter lighting. Control with an electronic time clock so that outer perimeter lighting can be turned off late in the night to save power.

- i. A minimum of one designated "Van Accessible Parking" space conforming to the Washington State Rules and Regulations for Barrier Free Design, should be provided for every 25 parking stalls, unless a greater number is required by local ordinance.
- j. Bicycle parking for staff should be located near employee entrances and be covered and secured. Bicycle parking for visitors should be located within sight of the public building lobby.
- k. "Stack-parking" may be utilized in agency motor pool areas, but no space should be more than three cars deep, i.e., it should not be necessary to move more than two vehicles to get to any other vehicle.

(9) Pedestrian and recreation spaces

- a. Provide paved sidewalks, minimum 4' wide, between all entrances and public sidewalks, between parking areas and entrances, and between transit stops and primary and employee entrances. Provide sidewalks along the public roadway, if none exist, in accordance with the development guidelines of the governing authority
- b. Provide accessible jogging/walking/biking trails, connected to existing trails, if and where appropriate.

(10) Outdoor Facilities

Provide an outdoor group meeting area, sized to accommodate 25 to 30 people, to be utilized (in favorable weather) for small seminars, classes and informal social gatherings. Ideally it would be located away from the building in a natural setting, or as part of the cafeteria/lunch room's outdoor dining area. This facility should be fully accessible by people with disabilities.

(11) Fencing/screening

- a. Outside service yards should be screened from public view by walls of materials architecturally compatible with associated buildings or screened by landscaping.
- b. Security fencing should enclose the entire Maintenance Shops Facility in a manner that will ensure no public access. All access points to the secure enclosure should have electrically operated gates controlled by card keys.

(12) Waste collection and recycling materials

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1. Facility Performance Guidelines

B. Site Goals

- c. Areas for building waste and for the collection of recyclable materials should be part of the service yard and be adequately screened with vegetation, secured by gate(s) and fencing, and located away from public view. Within these areas, the State will utilize appropriate metal containers for various types of materials.
- d. Waste collection/recycle material storage for the Administrative Office Building should be provided with a minimum of one ton capacity, which requires a paved surface area approximately 12' x 15', or 180 sq. ft. plus paved access area for a collection vehicle. Designer should verify the waste collection and recycle materials collection facility needs with authority or service providers responsible for such collection services in the area of the Project. A larger collection box(es) pad may be required to service the building(s). If the collection box(es) is (are) to be under cover, determine the vertical clearance needed by the collection vehicle.
- e. Maintenance Shops Facilities waste/recycling storage should be distributed in a manner that facilitates access from individual shops while allowing for easy waste pickup. Screen storage from public view using vegetation or architectural elements.

(13) Exterior lighting

- a. Provide two levels of lighting on site. Provide high intensity, low level (close to the ground) lighting for pedestrians. Provide low intensity, high level (light poles) for vehicular circulation and parking.
- b. Adequate lighting should be provided at public transit shelters, exterior covered passageways and at all entrances to the building(s).
- c. Provide lighting for exterior flagpole(s) so agency has the option to leave the national and State flags up at night.
- d. Provide a means of turning off perimeter lighting after work hours to conserve electricity by providing separate circuits and electronic time clocks or interface with the building controls.
- e. Lighting levels should always be sufficient for security cameras.

(14) Security/safety requirements

- a. There should be visual security of all parking areas, either directly by the lobby reception/security desk or counter, or by television cameras/monitors supervised by security or other staff. Use low light level cameras for effective surveillance of parking areas.
- b. Building should be designed and situated on the site to avoid spaces that can not be visually monitored.

(15) Flagpoles

Provide 30 foot illuminated aluminum flagpole.

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1. Facility Performance Guidelines

C. Office Building Design Goals

C. Office Building Design Goals

The Building Goals outlined below represent the intent of the State and provide overall direction for the design of the buildings in the Olympic Region Headquarters Complex. Refer to the Section VI—2-- Systems Performance Guidelines for detailed information.

(1) General design criteria

- a. The buildings should have a 50-year life expectancy and should represent the openness and efficiency of WSDOT contiguous with, and sympathetic to, the surrounding community. The buildings should express stewardship and public trust.
- b. The architectural forms should be appropriate to their function and the Pacific Northwest region and should avoid appearing institutional or monumental. The buildings should have dignity and human scale.
- c. The architectural image should be unique, germane to the site and to the Olympic Region missions.
- d. The building design should not appear to be overly protective or exclusionary, but rather should be open and inviting to all who may confront the building, particularly as may be seen from pedestrian approaches.
- e. The organization of the building's interiors, its hierarchy of spaces, should be apparent from the exterior and from the building's public spaces. The site, building, and interior should not require excessive informational graphics for a visitor to be able to "read" the building. Circulation and way-finding should be clear.
- f. The building design should serve as a model of conservation of resources and of the State's responsibility to the environment and should meet the LEED "Silver" rating as defined in the U. S. Green Building Council LEED Rating System, version 2.2, including project checklist, and as outlined in Section VI-- D6020.
- g. The building modulation (the degree to which a wall in a single flat plane can be varied) should be limited to 8% to allow for quality design and to minimize cost.
- h. Within the limits of local zoning, building design should optimize the ratio of floor area to number of stories for efficiency in planning and minimizing cost.
- i. Provide a minimum 10 foot ceiling height in open office spaces.
- j. Provide equally distributed glazing to the maximum allowed by code or as determined with life cycle cost analysis and/or LEED criteria, but not

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1. Facility Performance Guidelines

C. Office Building Design Goals

less than 5% of the floor area unless approved by State. Provide blinds on all exterior windows.

- k. Provide long, clear spans to maximize flexibility. Use a minimum 32-foot by 32-foot bay size.
- l. Use floor systems that do not vibrate or bounce with typical dynamic live loads.
- m. Provide type I-A construction and accordance with ICC International Code.
- n. Avoid columns 4 feet or less from exterior walls.
- o. Avoid basement construction wherever high groundwater levels are present.
- p. Because this building is to last 50 years, consider allowing for more than minimum accessibility standards. Wheelchairs and scooters, used by people with disabilities, may become larger. Conserving energy may be even more important in the future.
- q. People who have disabilities should be able to take the same path and enter through the same door as those who are not disabled. Segregation by physical design is not acceptable in State buildings.

(2) Interiors

- a. The interiors should avoid the institutional appearance of a typical, contemporary government building. Instead, it should appear transparent, reflective, inviting and open. Work areas should have a spacious feeling, but avoid “warehouse” type floor plans with large distances from exterior walls and natural light and view. Avoid excessive compartmentalization.
- b. Avoid repetitive, look-alike floor layouts and designs. A variety of sizes and characteristics of spaces should be provided throughout the facility. Architectural divisions between various operation programs may be used to create a sense of identity for the group or program, but the physical separation should not be so strong as to preclude sharing of common facilities by others (coffee areas, small meeting rooms, copy and supply rooms, reception and waiting areas, combined professional libraries or information resource areas).
- c. Private offices and conference rooms, restrooms, and storage should be located in the building core. Open office areas should be located between core and exterior windows to provide maximum daylight. Interior offices, conference rooms should have relights for natural lighting. The layout of the offices and work areas should maximize views to the exterior. The designer should utilize perimeter circulation areas to allow all staff and visitors to enjoy those views. Offices and

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1. Facility Performance Guidelines

C. Office Building Design Goals

other enclosed rooms should not be located directly on an exterior wall. Conference and classrooms should be located in the center core of the building, but may be located on exterior walls if they afford views through the room to the exterior window wall. Interior offices should be able to share the views by utilizing relights in the surrounding partitions.

- d. Assembly areas should be located on the ground floor. These areas will accommodate large groups of people such as conferences and must be equipped with Assistive Listening Equipment. Design should be such that public can go directly to these areas without entering secure areas of building.
- e. All areas of the building should use Universal Design concepts to accommodate people with disabilities. Universal Design provides access to the largest number of people whether they are tall or short, people with disabilities or those who are not yet disabled. Universal Design provides for safety and convenience, and preserves the dignity of the users.
- f. The efficiency factor of the building, i.e. the ratio of net usable area to gross building area, should meet or exceed 85%. The net usable area is defined as the Basic Rentable Area in ANSI/BOMA Z65.1-1996; (the total measured usable office areas, floor common areas, and building common areas).
- g. Layout of interior spaces should provide increased employee productivity and security.
- h. Design to provide interior flexibility required by frequent organizational changes.
- i. The building core should have capacity for additional systems or change of services.
- j. The core area on each floor should be designed to accommodate high-density file storage in addition to areas specifically identified for high-density files.

(3) Materials

- a. The materials and construction methods of the building should denote quality, permanence, resource conservation, energy conservation and practicality. Exterior building materials should emphasize low maintenance. Materials such as stone, brick and concrete with detailing to minimize staining and weathering of exterior wall surfaces should be considered. Exterior insulation and finish systems (EIFS) are not considered appropriate as the major, exterior wall cladding material.
- b. Carpet tiles should be used throughout all office areas and must be aired for the required time to allow for off-gassing in the building. The computer room should have a hard, impervious and dust-free surface on

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C. Office Building Design Goals

a raised floor. Lobby areas should have hard, easily cleanable, non-slip surface finishes such as brick, tile, stone, concrete or similar materials.

- c. Exterior windows should be designed to be near ceiling height to maximize the penetration of daylight into office areas. Windows that open must be operable by a person in a wheelchair and able to be opened with a closed fist. All window covering systems should be selected or designed in conjunction with the lighting systems to optimize energy utilization, to provide a uniformly high quality lighting level and to control glare.
- d. Exposed structural bracing, if used, should not interfere with circulation patterns or placement of furniture.
- e. The use of recycled materials in the construction of the building is strongly encouraged and should be used wherever appropriate and cost effective. [Refer to section “Materials and Resources” in the LEED Green Building Rating System \(See Section VI—2.D60\)](#)
- f. See Systems Performance Guidelines (Section VI—2.C30), Indoor Air Quality, for the emission restrictions of materials used in the interior of the building.
- g. See Systems Performance Guidelines (Section VI—2) for specific quality and performance requirements of all building materials and systems.

(4) Building Security

- a. Provide a proximity card access control security system. The system should include readers that activate locks when cards are displayed. Automatic door openers should be activated with cards or the operating button should be placed near the location of the access control system. The system should be used at all exterior doors, all office floors, and for access to security sub-zones including the computer room and supporting areas, communications closets, and mechanical and electrical rooms. The access control system should be readable from the lobby security/reception desk and only programmable from equipment in the building manager's office. See Systems Performance Guidelines (VI-2- D.90) for specific requirements.
- b. All public traffic to the Administrative Office Building should be required to pass by the lobby security/reception desk or counter.
- c. The public areas of the building, i.e. lobby, public toilets, etc. should be available to the public without compromising the security of the offices and other work areas of the building, without the need of security personnel to supervise doors, elevators, stairs or corridors. Operational units should have full lobby or other public access without the need to enter or pass through the work areas of other units.

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- d. Receiving/shipping and the loading dock area will be unlocked for large portions of the day. Therefore spaces which front or have access to/from the receiving/shipping must be capable of being secured. Provide an intercom and CCTV monitoring of this area directly from the security/reception desk. Provide vision glass between the dock area and staffed areas inside.
- e. Few interior spaces require locked doors; refer to the Space Needs Program and the Physical and Environmental Requirements for specific security requirements.
- f. Parking lots should be designed with a minimum number of hidden areas or blind spots. Pedestrian routes to parking should be direct, open and well lit. The lobby security/reception desk should have a view of transit stop/passenger waiting area. Provide conduit and power for CCTV monitoring of parking and transit stop/passenger waiting area(s).
- g. The exterior building lighting, parking lot and walkway lighting should be controlled by a photocell, time clock control system connected to each building's automated control system.
- h. Where emergency phones are available, they should also be accessible to people who are blind, have a visual impairment, are deaf or hard of hearing, or use wheelchairs.

(5) Entrances

- a. A covered shelter should be provided at the transit stop and at the vehicle drop-off area (which may be combined or separate). A covered passageway should connect this point with a main entry door of the building. This covered walk need not be continuous or "directly connected" to the building. Fifteen feet, or five paces, is considered an acceptable break in the covered walk.
- b. All public foot traffic is required to pass by the lobby/security/reception desk or counter.
- c. Public lobbies should be designed to withstand high traffic volume. Weather vestibule spaces with floor mats should be provided at all public entry doors.
- d. The main public entrance doors should be equipped with motor operated doors to facilitate access by people with disabilities.

(6) Recycling

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The building should be designed and constructed to serve as a model facility that maximizes waste reduction and recycling opportunities. Provide recycling areas as follows:

- a. Provide facilities for the collection of recyclable materials as described in the Space Needs Program.
- b. For emptying the desk side recycling boxes, a larger recycling area should be provided. This space should include an area for large recycling barrels, a cardboard storage area, and a waste reduction and recycling information tack board. See recycling vendor for number and sizes of recycle containers.
- c. All copy rooms should be provided with space for a minimum of two recycling containers for mixed and white paper. See recycling vendor for sizes of recycle containers.
- d. A recycle materials storage room should be located near the main loading dock. Refer to the Space Needs Program and the Physical and Environmental Requirements for more specific information.
- e. All recyclable material collection areas in the building should be integrated into the interior layout and be designed as an integral part of the space they serve.
- f. Janitor closets should be designed to accommodate a cart containing two large recycling containers for the collection of recycle materials.

(7) Private Offices

- a. Private offices should be designed to the dimensions and proportions specified in the Space Needs Program and the Physical and Environmental Requirements. The Space Allocation Standards published by General Administration and the WSDOT Facility Space Standards may be used as a planning guide. Offices must be capable of accommodating the furniture layout described in the Space Needs Program. See the Physical and Environmental Requirements for specific criteria and utilities.
- b. Unless specifically indicated otherwise in the Space Needs Program, no private office should be located on an outside window wall. Provide clear-glass relights in partitions to allow for daylighting, view and supervision.
- c. Unless specifically indicated otherwise in the Space Needs Program and the Physical and Environmental Requirements, office doors should have latch sets.

(8) Open Offices and Workstations

- a. The design of interior office space is predicated on the use of a number of pre-determined planning modules in the Space Needs Program.

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Refer to the Space Needs Program and the Physical and Environmental Requirements as a planning guide. All offices and workstations should be initially wired for complete voice and data communications.

- b. All entrances to cubicles and offices must be at least 36 inches wide. This improves access for workers with disabilities to access cubicles and office of coworkers.
- c. To the extent practical, the open office areas should be planned using the fewest number of module sizes, and/or at least one common panel wall dimension to reduce the need to move workstation panels when program changes occur. When changes of function/assignment do occur, changes should be limited to moving or changing workstation components, but not common "spine" panels or wires. Reassignment of voice and data lines should be accomplished within the voice and data network closets, not out on the floor.
- d. A 66" standard height panel should be used for common spine partitions between rows of workstations. Other radiating panels (not wired) may vary in height except for panels that are adjacent to interior corridor hallways. Tall panels (those tall enough to accommodate above-desk bookshelves) should be located so that they are perpendicular to the major window wall. The intention of this standard is to keep office areas open and light, allowing daylight to penetrate as far into the work areas as possible, and to facilitate air movement.
- e. Floor areas immediately adjacent to exterior window walls in open office areas should be used for perimeter circulation. This aisle should be at least 36" wide, but may be reduced at columns, provided that access by people with disabilities is not compromised (verify dimension with applicable codes). Do not place workstation modules or open office partitions next to exterior windows; always separate the workstation from the window by an aisle. This feature prevents individuals blocking daylighting with books, posters, etc. and eliminates complaints about glare and radiant heat from occupants of small work areas immediately adjacent to large, south-facing glass areas. Coordinate with electrical layout. Do not use exterior wall to distribute power or voice and data to open office workstations; use a below-floor type wire distribution system.
- f. Where workstations are not provided with system office partitions or panels, provide the required electrical and communications connections through flush floor boxes, designed and manufactured for that purpose, and directly connected to the under-floor wire distribution system. Provide similar floor connections at desk locations in all private offices and conference rooms.

(9) Functional Support Spaces

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a. Conference rooms:

Conference rooms should be distributed throughout the facility to serve employees, visitors and operational units, as expressed in the Space Needs Program and the Physical and Environmental Requirements. All conference rooms should have wall space for white boards, a tackable wall surface and voice/data and power connections for telephones and personal computers. Larger conference rooms should be equipped to accommodate television and VCR equipment as well. All conference rooms should be provided with relights to indicate in-use/available status and to facilitate daylighting. The location of conference rooms should not block natural light to open-area workstations. Any sink in conference rooms should be accessible.

Larger conference rooms should be located near reception areas where they will be convenient to users, as discussed in the Space Needs Program. Very large conference rooms and/or video-conference rooms should be conveniently located near the building's public lobby. Smaller conference rooms should be distributed throughout the building.

b. Food service:

We're indicated in the Space Needs Program, provide food service adjacent to employee lunch or break rooms. The food service area will have a self-rimming, accessible stainless steel sink with swivel gooseneck fitting providing filtered tempered hot and cold water, plus an instant hot water dispenser within reach range of person in wheelchair. Provide 96" minimum counter space, at least 36 inch space on counter must be accessible by wheelchair. Use a 10 inch toe space to improve reach range of people using wheelchairs. Provide upper and lower storage cabinets; utensil drawers; and space for one standard or two under-counter refrigerators. Provide space for microwaves within an accessible reach range.

c. Coffee stations:

i. Function:

Coffee stations should be distributed throughout the building at a ratio of 1 to 50 employees, but at a minimum of one per floor and one per every 10,000 SF. Each station will have an accessible self-rimming stainless steel sink with swivel gooseneck fitting providing filtered tempered hot and cold water, plus an accessible instant hot water dispenser. Provide 48" to 96" counter space with upper and lower storage cabinets, utensil drawers, and space for one standard or two under-counter refrigerators. Verify the type and size of coffee machine to be installed.

ii. Adjacencies:

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The coffee stations should be located close to the building core and primary circulation areas and to the employee workstations they are intended to serve.

d. Copier rooms:

i. Function:

Copier rooms contain high-volume copiers, fax machines, and printers, including related equipment and supplies. Copier rooms of approximately the same size should be distributed throughout the facility as discussed in the Space Needs Program. Copier rooms should be enclosed spaces with doors. Enclosure allows for noise control and ventilation exhaust. Copier rooms should be exhausted to the outside through an exhaust system that can be turned off with a night set-back. Provide floor space for the specific equipment listed in the Space Needs Program and the Physical and Environmental Requirements, including turning space for wheelchairs. Include areas for paper waste and recycle containers.

ii. Adjacencies:

Copier rooms should be placed near the core or interior of the building, no further than 100 feet from any administrative workstation or office that the copy room is intended to serve.

e. Recycle stations:

Provide primary recycle materials collection and storage alcoves immediately adjacent to copy rooms. Alcoves should be visible and convenient to employees; however, the interior should not be visible from office areas. Each alcove should provide space for the storage of recycle barrels and area for stacking broken-down cardboard boxes.

f. Recycle materials storage:

i. Function:

Provide a recycled materials storage area to serve the entire building. The room may require a paper baler, depending on the collection volume, collection schedule and collection equipment. Refer to the Space Needs Program and the Physical and Environmental Requirements. Provide a man-door and an 8' wide overhead coil door for access to the service dock. Interior wall and door finishes should be appropriate for the handling of heavy bulk materials.

ii. Adjacencies:

Locate the recycle materials storage facilities near the service elevator and the building's loading dock.

g. Building manager:

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The building manager is generally responsible for all maintenance, repair and functioning of the building's operating systems. This includes monitoring of the building's electrical, electronic mechanical, plumbing and fire protection systems. This office may also be responsible to monitor the building's electronic security systems. The office area should be designed to accommodate the necessary monitoring and control equipment.

h. Mail rooms:

Mail rooms handle all incoming and outgoing mail for operational units. Functions include receipt, sorting, delivery/collection, envelop stuffing, posting and pickup and should be designed to be accessible. This includes USPS and the State's internal delivery system, as appropriate. Mail rooms should be conveniently located near the service elevator and the service dock.

For security reasons, exhaust ventilation leaving this room should be able to be sealed off from both interior and exterior.

i. Computer rooms:

Locate computer rooms above grade to avoid the potential for groundwater flooding and moisture problems.

Data centers and voice data rooms should be located and designed to be easily expandable.

(10) Building Services Areas

a. Loading docks:

Loading docks should be separated from the main traffic patterns for transit, building entrances, parking access. They should be adjacent to receiving and shipping, mail rooms and recycle materials storage.

b. Shipping and Receiving:

Shipping/Receiving should be located on grade level adjacent to, and serving as the interior component of, the building's service dock. This area supports the transportation of recycling materials, building materials, furniture, supplies, mail, paper, and refuse to and from the facility.

c. Restrooms:

Restrooms should be conveniently located throughout the building. There should be at least one separate restroom for each sex on each floor. All restrooms should be accessible. The restrooms should be generally located near the building core, i.e., the public elevators, fire stairs, mechanical and electrical rooms and other non-movable facilities. Unless specifically indicated in the Space Needs Program, do not provide any private toilet facilities in the buildings. All restrooms should be designed to meet the

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current edition of the Washington State Rules and Regulations for Barrier Free Design. Drinking fountains should be conveniently located near the entrances to each pair of restrooms.

d. Janitorial spaces:

Janitorial spaces should be provided throughout the building near restrooms. These spaces should include mop sinks and storage spaces for cleaning equipment and supplies for cleaning and for restrooms. A larger janitorial space should be provided near the shipping/receiving area and near the service elevator. This space should include room for a work bench, repair tools, light bulbs, bulk cleaning and restroom supplies, mechanical repair items, and other miscellaneous equipment.

e. Telecommunication closets (IDF rooms):

Telecommunication closets should be provided on each floor of the building, each closet 150 sq. ft. minimum. Locate closets such that no voice/data cable runs will exceed 295 ft. When appropriate, these rooms should be stacked above each other on a vertical electronic cable chase connected to the MDF / Server room containing the telephone/data entrance cable and connection board. These rooms should be large enough to accommodate the connection boards. See Systems Performance Guidelines (Section VI-2-D53) and the attached WSDOT Cable Standards (Section VII) for specific information.

f. Fire control closet:

Provide a Fire Control Closet or floor area in the fire sprinkler riser room, per the requirements of the local fire marshal and/or fire department. In addition, locate a fire alarm enunciator panel in one of the building's vestibules or air locks, as directed by the fire marshal or fire department.

g. Elevator machine rooms:

Elevator Machine Rooms should be isolated from office and reception areas to minimize noise, vibration and electrical interference. These rooms should be easily serviceable. If located on the roof, provide access via an enclosed stair tower.

h. Mechanical and electrical spaces:

Mechanical and electrical spaces and closets should be provided to meet the needs of the respective systems. If required on upper floors, then these spaces should be stacked and grouped in the core.

(11) Circulation

- a. Stairways should be provided throughout the building. Where possible, stairways should be located to encourage their use in lieu of elevators. Alternatively, stairway doors may be held open with magnetic hold-opens to encourage use by building occupants if security limitations will

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permit. Where possible, stairways should be designed to utilize natural light, and to be visible from the exterior. For security purposes, all open, exterior stairways should have voice communication stations at each landing.

- b. Elevators should be provided to every floor in a multi-story building. They should be conveniently located for use by people with disabilities. The maximum walking distance to an elevator should not exceed 150 feet from any workstation or office. Avoid creating separate banks of elevators to meet this criterion. Elevator banks should include a coordination program that saves energy and wear. A separate service elevator should be provided, and should have convenient access to receiving and shipping, and to the main building lobby. As an alternative, consider an oversized passenger elevator instead of a separate freight elevator. All elevators are required to have a cab large enough to hold a gurney. Provide one set of protective interior pads to fit passenger elevator cabs.
- c. Corridors should be provided to give convenient and understandable access to all areas of the building. Minimum public corridor width of 6' should be increased in high traffic areas. Corridors should be sound isolated and/or carpeted to reduce noise.
- d. Buildings with mechanical or elevator equipment on roof should have roof access from at least one interior stairway, conveniently located for access to equipment.
- e. Provide tenant identification signs for public and employee entrances and elevator lobbies. Provide signs and directories as specified in the Space Needs Program. Provide Braille signage for all doors that alarm when opened.

(12) Smoking Policy

- a. Smoking is not allowed in State office buildings, by either employees or visitors.
- b. Exterior smoking areas sized to accommodate 25 people should be provided at several locations down wind and away from the building entrances. Provide partial roof coverage.
- c. Include locations for ash urns to be furnished and installed by the State.
- d. Materials for the balconies should be low maintenance and durable, particularly flooring.
- e. All smoking areas should have a moderate amount of lighting for occasional evening use.
- f. No employee smoking will be allowed around the main entry of the building. However smoking urns or receptacles should still be provided

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in this area for visitors to extinguish any smoking materials upon entering the building.

- g. Employee smoking areas should not be in direct view of visitors to the building and must be at least 25 feet from any building entry, operable windows or air intakes.
- h. Do not locate fresh air intake grilles near outdoor employee smoking areas.

(13) Hours of Operation

The main entry doors and the building's reception desk or counter will be open from 7:00 a.m. to 6:00 p.m. Some programs may have split shifts that may bring employees into the building anytime between 6:00 a.m. and 7:00 p.m. Beyond these building hours a limited number of workers may require access to the building on a 24 hour / 7 days a week basis.

(14) Flexibility

Planning and layout flexibility for the organizational units, their sub-units, conference rooms and support areas is a primary program requirement. Space designed as open office may become enclosed private offices or conference rooms within a few years, and vice versa. Therefore, specific interior building subsystems must be flexible, designed to interface with each other and be able to accommodate various space arrangements without major modification.

- a. Partitions should be removable without marring ceiling grids or floor surfaces. However it is not required that finish floor materials run underneath partitions.
- b. Lighting should be removable, relocatable, and capable of a 10% increase or decrease in intensity. See the Space Needs Program and the Physical and Environmental Requirements for automated lighting switching system requirements.
- c. Switching should be relocatable to accommodate changes in partitions and lighting.
- d. HVAC distribution systems and controls should accommodate changes in zones resulting from planning changes, whether on exterior or interior zones; and whether spaces are open office, private office or meeting rooms.
- e. Ceilings and ceiling grids should accommodate partition changes without requiring changes in lighting or HVAC systems, acoustic provisions, or modifications to any adjacent one-hour fire rated assemblies. Ceiling components and suspension grids should be well organized and visually pleasing.
- f. Sprinklers should have an initial layout relating to a planning module that will require minimal or no change to accommodate new layouts.

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- g. Power and communication design should accommodate the proposed plan and allow for future floor plan arrangements within a floor-type, horizontal, wire distribution system.
- h. Avoid using partitions that intercept exterior glazing. If they must be used, locate exterior glazing mullions on derivatives of a planning module to accommodate partitions, so that special inserts between mullions, or at ends of partitions, are not necessary. Align mullions with the partition layout grid.

(15) Data and Communications Distribution System

The data/communication distribution system should provide maximum flexibility at optimum cost effectiveness to accommodate the dynamic characteristics of information technology. The electronic distribution system should be integrated with the modular furniture systems. The center panel spine of the modular furniture partition system should remain stationary and contain the wiring for power, data, and communications. The outer panels should be flexible and interchangeable to accommodate program changes.

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D. Office Building Design Goals

D. Maintenance Shop Facility Design Goals

The Maintenance Shop Facility Design Goals outlined below represent the intent of the State and provide overall direction for the design of the shops in the Olympic Region Headquarters Complex. Refer to the Section VI—2-- Systems Performance Guidelines for detailed information.

(1) General Design Criteria

- a. For the purposes of the design goals for the Maintenance Shops Facility, this discussion assumes a design solution that includes a Shops Building, Equipment Building, Covered Storage Building, Fuel Island, and Vehicle Storage Canopies. The Proposer may choose to solve the State's needs using a different layout and configuration and is encouraged to do so.
- b. The buildings should have a 50-year life expectancy and should represent the optimum in frugal efficiency using state of the art layout and technology.
- c. The design issues for maintenance and operations facilities are significant. These facilities are large complex operations that must operate with efficiency, durability, and safety.
- d. Provide maintenance facility buildings that are unified in scale, materials, textures, and articulation to maximize their overall impact.
- e. The facilities that directly support the maintenance operation are large in size and scale relative to the site, but should remain well back of the public's immediate awareness. Nonetheless, the design issues for these facilities are of no less concern. These buildings are subject to very different demands than the Administrative Office Building.
- f. The building materials for the maintenance facilities must respond to the different demands of the functions but should provide a unifying theme for the total site complex.

(2) Site Organizational Criteria for Maintenance Shops Facility

- a. **Vehicle Circulation:** The on-site circulation for the State vehicles should access from the north from 32nd Ave NE and/or the access road (30th Ave. NE) at the southeast corner of the lower section of the property. All State vehicles should have the ability to circulate around the Shops Buildings. It may be possible to have a right-in/right-out access point onto Marvin Road NE.
- b. **Employee Access:** The employee vehicles should have limited access to the site areas generally restricted from the Maintenance Shop and Yard areas. However, the employees should be able to park in a dedicated employee lot relatively close to the buildings in which they will be working. Access should be from the north from 32nd Ave NE and/or the

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access road (30th Ave. NE) at the southeast corner of the lower section of the property.

- c. **Shop Building:** The recommended circulation path around the Shop Building is a 40', preferably 50', width allowing for two way traffic and for vehicles to load materials and equipment from the overhead doors located around the Shop Building. The majority of this traffic will be pick-up trucks and vans.
- d. **Equipment Building:** The recommended circulation path around the Equipment Building is a 75' width allowing for two way traffic and for vehicles to turn perpendicular to the building to enter the bay doors. The traffic around this building will be all State vehicle traffic. Other on-site vehicle traffic should not unnecessarily circulate around or past the Equipment Building to avoid accidents from vehicles exiting the building.
- e. **Fuel Island:** The facility should be located near the access road (30th Ave. NE) at the southeast corner of the lower section of the property. This location will keep the large truck traffic off of 32nd Ave. NE. The circulation path is through the 12' wide fuel lanes and trucks should have 75' to turn perpendicular to the fuel lanes. Two way traffic is needed on both sides of the Fuel Island and to allow deliveries of fuel to the adjacent fuel storage tanks.
- f. **Vehicle Wash and Paint Cleanout:** The facility should be open at both ends to allow drive through truck traffic. The circulation path is through the covered bays and trucks should have 75' to turn perpendicular to enter the bays.
- g. **Covered and Enclosed Storage Building:** The recommended circulation path around the Covered and Enclosed Storage Building is a 40', preferably 50', width allowing for two way traffic and for vehicles to load materials and equipment from the overhead doors located around the building. The majority of this traffic will be pick-up trucks and vans.
- h. **Large Truck Parking (covered and uncovered):** The recommended circulation path to and around the Large Truck Parking is a 70' width allowing for two way traffic and for vehicles to turn perpendicular to the parking stalls.
- i. **Medium Truck Parking (covered and uncovered):** The recommended circulation path to and around the Medium Truck Parking is a 50' width allowing for two way traffic and for vehicles to turn perpendicular to the parking stalls.
- j. **Small Truck Parking (covered and uncovered):** The recommended circulation path to and around the Small Truck Parking is a 40' width allowing for two way traffic and for vehicles to turn perpendicular to the parking stalls.

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- k. Storage Yards:** The recommended circulation path around all storage yards is a 40' width allowing for two way traffic and for tractor trailer trucks to unload material and circulate through the yard. The minimum radius to turn a tractor trailer truck around 180 degrees is 100'.

Section VI **Design Guidelines**
 2. Systems Performance Guidelines
 A. Substructure

2. Systems Performance Guidelines

A. Substructure

1) Requirements:

- a. Provide substructure as required to support the completed and occupied buildings safely.**

2) Performance criteria:

- a. Water Penetration:** Prevent ground water penetration into the interior of the building under any circumstances.
- b. Water Accumulation:** Prevent accumulation of water in crawl spaces or open areas adjacent to substructure.
- c. Substance Exclusion:** Prevent accumulation of harmful chemicals and gases such as radon and methane in spaces below substructure and subsequent penetration into occupied spaces.
- d. Vermin Protection:** Provide permanent protection against infestation of construction by ground dwelling termites and other vermin.
- e. Capacity:** Provide load bearing substructure members as required by code and designed to distribute dead loads, live loads, and environmental loads to the foundation.
 - i. Provide foundation systems in accordance with the earth pressures and recommendations as determined by the design-builder's geotechnical engineer.
 - ii. Extend bearing portions of substructure to levels below frost line.
- f. Durability:** Provide substructure elements that will endure for the lifetime of the building with no maintenance.
 - i. Corrosion Prevention: Provide supplementary protection for underground metal elements, sufficient to prevent corrosion completely for the service life of the element without maintenance.
- g. Do not use any of the following:**
 - i. Treated wood
- h. Maintenance Shops Facilities:** Comply with the additional performance criteria or exceptions below:
 - i. None required

3) Verification, evaluation and testing:

- a. Identify:** major water resistant assemblies and drainage features.

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A. Substructure

- b. Preliminary Design:** Identify any dewatering methods to be used.

Section VI **Design Guidelines**
2. **Systems Performance Guidelines**
A10. **Foundations**

A10. Foundations

1) Requirements:

- a. Provide all elements necessary which will spread and transmit vertical and lateral loads directly to the soil; will prevent moisture from entering the building; and which will provide a continuous horizontal surface allowing users to walk upon.**

2) Performance criteria:

- a. Waterproofing:** Provide permanent waterproofing at portions of foundation that extend below water table and enclose habitable space.
- b. Drainage:** Provide method of collecting and draining water from below portions of foundation that enclose habitable space.
 - i. Subdrains should be located and placed as recommended in the Geotechnical Report. The method of subdrain installation will depend on the proximity of structural walls.
- c. Structural fill:** Structural fill should be as recommended in the Geotechnical Report.
- d. Unclassified material:** Unclassified material should contain no muck, peat, organics, or debris, nor any material larger than four inches in diameter. Unclassified material is that which is suitable for fill or backfill in those areas outside the building that are not subject to traffic loads.
- e. Durability:**
 - i. Concrete should be minimum of 3,000 psi at 28 days.
 - ii. Floor Classifications: For concrete floors on grade, comply with composition and finishing recommendations of ACI 302.1R-2004 for floor classifications based on type of anticipated traffic and intended use.
 - Class 3: Minimum 28-day compressive strength of 3000 psi; maximum slump of 5 in; exposed surface, broom finish at basement and garage areas, normal steel-troweled at exposed surfaces; light steel-troweled finish; for covered surfaces, curing methods that will not interfere with applied interior finishes.
 - iii. Water-Cement Ratio: For concrete slabs on grade that are partly or completely exposed to freezing conditions, limit water-cementitious materials ratio as recommended by ACI 302.1R- 2004.
 - iv. Air Content: For concrete slabs on grade that are partly or completely exposed to freezing conditions, provide air content in accordance with recommendations of ACI 201.2R-2004.

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f. Conventional Foundation:

- i. General: All buildings should be sited with respect to general site elevation so that there is drainage away from the structure.
- ii. Excavation: As recommended in the Design/Builder's Geotechnical Report.
 - The footings and bearing walls should be founded as recommended.
 - Floors designated as a slab on grade should be supported on the dense to very dense structural fill placed directly on top of those native soils as recommended.
 - A minimum of six inches of compacted granular fill should be placed directly below slabs on grade and provided as recommended.
- iii. Backfill: As recommended in the Design/Builder's Geotechnical Report.
 - structural backfill may be provided beneath the footings (if they do not bear on in-situ soils) and floor slab in the building area.
 - Material should meet- the recommendations of the Geotechnical Report.
 - The thickness of structural fill beneath the footings should be as recommended in the Geotechnical Report.

g. Floor Slabs on Grade:

- i. Slabs with drains should slope to drain a minimum of 1/8" in 12".
- ii. Where cellular floor system is used, provide as necessary to meet power and communication requirements. Cellular floor should be installed over a 2" minimum rat slab and have 2 1/2" minimum concrete topping over top of cellular floor.
- iii. Provide vapor retarder with lapped joints not exceeding 0.124 perm (6 mil) over a minimum layer of 6" granular material below all slabs on grade within the buildings.
 - Limit vapor transmission through floor construction to maximum rate of 0.1 perms at locations where impermeable applied interior finishes such as resilient flooring, wood flooring, or acrylic terrazzo are used. Use supplementary vapor retarder if necessary to meet requirements.
 - 2) Use method of sealing joints between vapor retarder elements that will be effective given available construction practices.

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- iv. Thermal Performance: Provide thermal properties at edges of floors on grade as necessary to maintain interior comfort levels specified and in accordance with code.
- v. Waterproofing: Provide permanent waterproofing for floors on grade that could potentially come into contact with ground water.
- vi. Provide waterproofing and protection boards for fountain, pool, planter walls and bottoms (if such occur).
- vii. Floor Flatness (FF): Provide floors on grade engineered and constructed to achieve degree of flatness as follows, when measured in accordance with ASTM E 1155- 1996(R01):
 - Resilient floor coverings:
 - Specified Overall Value (SOV): 35.
 - Minimum Localized Value (MLV): 24.
 - Carpeted floors:
 - a) Specified Overall Value (SOV): 25.
 - b) Minimum Localized Value (MLV): 17.
 - Subfloors under concrete topping; thick-set tile, mechanical rooms:
 - a) Specified Overall Value (SOV): 20.
 - b) Minimum Localized Value (MLV): 15.
 - Floors requiring better-than-average flatness/levelness:
 - a) Specified Overall Value (SOV): 45.
 - b) Minimum Localized Value (MLV): 30.
- viii. Floor Levelness (FL): Provide floors on grade engineered and constructed to achieve degree of levelness as follows, when measured in accordance with ASTM E 1155- 1996(R01):
 - Resilient floor coverings:
 - Specified Overall Value (SOV): 25.
 - Minimum Localized Value (MLV): 17.
 - Carpeted floors:
 - Specified Overall Value (SOV): 20.
 - Minimum Localized Value (MLV): 15.
 - Subfloors under concrete topping; thick-set tile, mechanical rooms:
 - Specified Overall Value (SOV): 15.

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2. Systems Performance Guidelines
A10. Foundations

- Minimum Localized Value (MLV): 10.
 - Floors requiring better-than-average flatness/levelness:
 - Specified Overall Value (SOV): 35.
 - Minimum Localized Value (MLV): 24.
- h. Do not use any of the following:**
 - i. Wood foundation systems.
- i. Maintenance Shops Facilities:** Comply with the additional performance criteria or exceptions below:
 - i. Design foundations for jib type cranes to be used in the maintenance buildings based on the cranes specified.
 - ii. Provide a 12-inch layer of Type II aggregate base below all maintenance shop slabs-on-grade to prevent chemical heave.
 - iii. Piping trenches should be coordinated with structural, architectural, and mechanical elements. Pipe trenches should be covered with steel plate consistent with floor loading and finishes specified.
 - Trenches and pits should be armored with steel angles at the mouth to support trench covers and prevent wall damage.
 - Slabs-on-grade, trenches, and pits will be sloped to drains or sump pits at various locations in the maintenance bays.
 - iv. Slabs-on-grade should have either construction joints or sawn control joints integrated into the column, drain, trench, and pit configurations. Areas bounded by construction or control joints should be limited to 400 square feet and should be roughly square in plan. Thickened slab areas should be provided below any masonry partitions.

3) Verification, evaluation and testing:

- a. Design Development:** Provide subsurface investigation to identify location of water table and identification of areas requiring water protection systems.
- b. Foundation and Footing:**
 - i. Provide complete structural calculations by a structural engineer currently licensed to practice in the State of Washington.
 - ii. Provide verification, by certification or test by an independent testing laboratory approved by the State, that design and materials conform to the Performance Criteria.

Section VI Design Guidelines
2. Systems Performance Guidelines
A10. Foundations

c. Auger Cast Piling:

- i. Pile capacity: As indicated in the Geotechnical Report.

d. Driven Piles:

- i. Tolerances: Drive piles vertical at locations shown on drawings. Maximum horizontal variation of any pile from its location shown on drawings should not exceed 2". Pile centerline should not deviate more than 1" in 10' of pile length from vertical. Soils Engineer to notify State Project Manager if these tolerances are exceeded.

- e. Construction Testing:** Provide verification, by certification or test by an independent testing laboratory approved by the State, that design and materials conform to the Performance Criteria.

Section VI **Design Guidelines**
2. **Systems Performance Guidelines**
A20. **Basements**

A20. Basements

1) Requirements:

- a. **Provide all elements necessary to enclose any spaces located below grade that will: prevent moisture from entering the building; prevent frost or ice from occurring on interior surfaces of the building; provide for thermal and seismic expansion; and is energy efficient.**

2) Performance criteria:

- a. **Backfill and structural fill material:** Place as recommended in the Geotechnical Report. Each lift should be compacted to minimum of 95% maximum density. No backfill should be placed behind walls until concrete has attained 28-day strength.
- b. **Vapor retarder:** Provide with lapped joints, not exceeding 0.124 perms (6 mil).
- c. **Waterproofing:** Provide permanent membrane waterproofing at portions of basement that extend below water table and enclose habitable space. If appropriate, provide related thermal insulation and vapor retarder sheet, as well as protection board.
- d. **Drainage:** Provide method of collecting and draining water from exterior areas in contact with basements that enclose habitable space.
- e. **Radon Exclusion:** Prevent accumulation of radon and subsequent penetration into basement spaces.
- f. **Do not use any of the following:**
 - ii. Non-reinforced masonry
 - iii. Treated wood
- g. **Maintenance Shops Facilities:** Comply with the additional performance criteria or exceptions below:
 - i.

3) Verification, evaluation and testing:

- a. Provide subsurface investigation to identify location of water table and identification of basement areas requiring waterproofing systems.
- b. Provide complete structural calculations by a structural engineer currently licensed to practice in the State of Washington.
- c. Provide verification, by certification or test by an independent testing laboratory approved by the State, that materials used conform to the Performance Criteria.

Section VI **Design Guidelines**
2. **Systems Performance Guidelines**
B. **Shell**

B. Shell

1) Requirements:

- a. **Provide permanently enclosed spaces for all functional areas shown in the Space Needs Program that keep out weather, unauthorized people, animals, and insects, while providing convenient movement of occupants, desirable natural daylight, and views from inside to outside.**
- b. **The elements of the shell consist of:**
 - i. **Superstructure (B10)**
 - ii. **Exterior enclosure (B20)**
 - iii. **Roofing (B30)**

2) Performance criteria:

- a. **Thermal Performance:** Provide construction that will have thermal resistance as necessary to maintain interior comfort levels specified in the *Physical In Environmental Requirements (Section V – 8)*, and in accordance with code and the following:
 - i. **Energy Efficiency:** As specified in *Energy Analysis and LEED, (Section VI – 2. D60)*.
 - ii. **Condensation:** None allowed on interior surfaces under normal interior temperature and relative humidity conditions, during 98 percent of the days in the coldest 3 months of the year. Design wall systems to allow condensation to exfiltrate to the exterior.
- b. **Air Infiltration:** Maximum of 0.06 cfm per square foot of exterior surface area, measured in accordance with ASTM E 283-2004 at static air pressure difference of no less than 20% of the inward acting design wind load pressure calculated for Cladding and Components in accordance with the code but in no case less than 8 psf. Use supplementary air barrier if necessary to maintain performance over entire shell.
- c. **Natural Light:** Provide fenestration in shell as required to meet requirements for natural light as specified in Section VI—1, Section VI—2.D60 and in accordance with code.
- d. **Natural Ventilation:** If natural ventilation is implemented, design and construct shell to provide natural ventilation in accordance with code and/or LEED (Section IV—2.D60) the following:
 - i. Design ventilation to provide cross ventilation where possible.
- e. **Acoustical Performance:** Design and construct the shell to limit sound transmission as follows:

Section VI Design Guidelines
2. Systems Performance Guidelines
B. Shell

- i. Ambient Sound Level: Maintain ambient sound levels in perimeter spaces within Noise Criteria (NC) ranges specified in Section VI – 2.C *Interiors* during normal hours of occupancy.
- ii. Exterior Noise Level: Maintain allowed daytime and nighttime noise levels from building equipment or mechanical system noise, maintenance shop operations and other interior noise sources, in accordance with local zoning and noise control regulations, as predicted for adjacent or nearby receiving property lines.
- iii. Exterior Noise at Interior Spaces: Maintain allowable interior daytime and nighttime average noise level from exterior sound sources, in accordance with local regulations, and in accordance with interior noise criteria in Section VI –2.B20 and Section VI –2.C, including Roofing elements, such as skylights.
- iv. Vibration Control: Use shell elements that will not resonate at frequencies that are characteristic of ambient exterior sound sources at the site.
- v. Maintenance Shop Facility: where necessary, enclose machinery or operations areas that generate high noise or vibration levels with appropriate sound and vibration containment construction.
- f. Cleanliness of Exterior Surfaces:** Design and select materials to:
 - i. Prevent attraction and adherence of dust and air-borne dirt and soot, and minimize appearance of settled dust and dirt.
 - ii. Be washed reasonably clean by normal precipitation.
- g. Appearance:** Use exterior materials that :
 - i. Are compatible with adjacent buildings on the site.
 - ii. Conceal mechanical equipment, plumbing equipment, electrical equipment, and piping, conduit, and ducts from view from the street.
- h. Fire Resistance:** Design and select materials to provide fire resistance in accordance with code.
- i. Physical Security:** Design and construct to provide protection as follows:
 - i. Opaque Elements at Ground Level: Use materials that give the impression of strength, for discouragement of opportunistic attempts at intrusion. Use materials that resist penetration by chainsaw or 10 lb sledge hammer (10 blows) wielded by one individual.
 - ii. Glazed Elements at Ground Level: Locate where under surveillance by staff at their normal workstations.
 - iii. Doors: ASTM F 1233 1998(R04).

Section VI Design Guidelines
2. Systems Performance Guidelines
B. Shell

- j. Structural Performance:** Provide materials to support all loads without damage or excessive deflection in accordance with code.
 - i. Special Loads: In addition to loads defined by code, design for loads imposed on structure by building operations such as moving machinery, equipment elevators, cranes, vehicles or other elements that would impart load to the structure after construction.
- k. Service Life:** provide a shell with the same Service Life as the building service life, except as follows:
 - i. Load-Bearing Structural Members: Minimum of 100 years with no anticipated deterioration when protected.
 - ii. Wall Primary Weather-Barrier Elements: Minimum 50 years functional and aesthetic service life, excluding joint sealers.
 - iii. Glazing: Same as other wall primary weather-barrier elements, except accidental breakage is considered normal wear-and-tear.
 - iv. Joint Sealers: Minimum 20 years before replacement.
 - v. Surfaces Exposed to View: Minimum 20 years aesthetic service life; in addition, deterioration includes color fading, crazing, and delamination of applied coatings.
 - vi. Roof Covering: Minimum 20 years, fully functional.
- l. Water Penetration:** Design and select materials to prevent water penetration into the interior of exterior wall cavities and the interior of the building at a static pressure difference of no less than 20% of the worst case inward acting wind load design pressure calculated for Cladding and Components in accordance with the code but in no case less than 8 psf.
 - i. Exception: Controlled water penetration is allowed if materials will not be damaged by presence of water or freezing and thawing, if continuous drainage paths to the exterior are provided, and water passage to the building interior is prevented.
- m. Weather Resistance:** Design and select materials to minimize deterioration due to precipitation, sunlight, ozone, normal temperature changes, salt air, and atmospheric pollutants.
 - i. Deterioration includes corrosion, shrinking, cracking, spalling, delamination, abnormal oxidation, decay and rot.
 - ii. Surfaces Exposed to View: Deterioration adversely affecting aesthetic life span includes color fading, crazing, and delamination of applied coatings.
 - iii. Joint Components and Penetration Seals: Use materials capable of resisting expected thermal expansion and contraction; use overlapping joints that shed water wherever possible.

Section VI Design Guidelines
2. Systems Performance Guidelines
B. Shell

- iv. Glazing: Do not allow haze, loss of light transmission, or color change during entire service life.
- v. Freeze-Thaw Resistance: Use materials appropriate for this climate.
- vi. Corrosion Resistance: In locations exposed to the outdoor air or in potential contact with moisture inside shell assemblies, use only corrosion-resistant metals and materials.
- vii. Ozone Resistance: Do not use materials that are adversely affected by ozone.
- n. Moisture Vapor Transmission:** Design to prevent deterioration of materials due to condensation of moisture vapor inside assemblies.
 - i. Use supplementary vapor retarder if necessary to meet requirements.
 - ii. Seal joints between elements using construction practices consistent with building service life.
- o. Impact Resistance:** Design and select materials to resist damage due to impact in accordance with code and the following:
 - i. Minimize damage from windborne debris.
 - ii. Resist damage from hail, rain or other environmental events.
 - iii. Minimize damage due to potential vandalism.
 - iv. Resist damage from natural hazards such as perching, nesting or feeding birds or other animals and pests.
- p. Wear Resistance:** Design and select materials to provide resistance to normal wear-and-tear in accordance with code and the following:
 - i. Elements Within Reach of Pedestrians: Minimize degradation from rubbing and scratching caused by pedestrians.
 - ii. Maintenance shop facility: provide resistance to high levels of wear-and-tear in those areas identified in Section V –8 of the *Space Needs Program*.
- q. Do not use:**
 - i. Air-supported structures.
 - ii. Different metals subject to galvanic action in direct contact with each other.
 - iii. Aluminum in direct contact with concrete or cementitious materials.
 - iv. Materials and products that require field finishing on surfaces exposed to the weather.
 - v. Wood cladding, siding and trim.
 - vi. Exterior Portland cement plaster (Stucco)

Section VI Design Guidelines
2. Systems Performance Guidelines
B. Shell

- vii. Exterior Insulation and Finish Systems (EIFS).
- r. Maintenance Shops Facilities:** Comply with the additional performance criteria or exceptions below:
 - i.

3) Verification, evaluation and testing:

- a. Thermal performance:** In the proposal, provide summary calculations documenting the thermal performance expected of the shell and its components.
 - i. Design development: provide detailed calculations using energy analysis software acceptable to the state.
- b. Exterior appearance:** In the proposal, provide drawings of proposed solution indicating overall building configuration, massing, scale, and relationship to surrounding buildings. Drawings should show facade treatment for principal elevations identifying visible materials.
- c. Weather resistance:** In proposal identify weather-exposed elements and proposed materials.
- d. Water penetration:** During construction, perform in-progress testing of building shell assemblies to assure adequate performance. AAMA-certified independent testing lab to construct temporary interior vacuum chamber and spray test assemblies per AAMA 502-90, Procedure B and ASTM E-1105-2000, Procedure B using a pressure differential of 8psf.
- e. Natural ventilation:** In proposal, identify spaces relying on natural ventilation with description of ventilation concept and required building elements.
- f. Acoustical performance:** In the proposal, identify exterior enclosure elements requiring sound barriers and proposed methods of meeting requirements. During Design Development, provide an acoustical analysis prepared by an acoustical consultant.
- g. Physical security:** In proposal identify exterior materials and the physical properties that accomplish the security requirements.

Section VI Design Guidelines
2. Systems Performance Guidelines
B10. Superstructure

B10. Superstructure

1) Requirements:

- b. Provide structural elements capable of supporting code loads without failure or damage, of sufficient strength to support the estimated, required or actual imposed loads, including lateral forces, without exceeding the allowable stresses and without excessive deflection. The structural elements should be true and plumb.**

2) Performance criteria:

- a. Water Penetration:** Where roof coverings in Section VI—2.B30 are not used over roofs provide supplementary waterproof construction providing equivalent protection.
- b. Safety:**
 - i. Fire: Provide members with combustibility, flame spread, and smoke generation characteristics not greater than allowed by code.
 - ii. Fire Resistance: Use materials to provide fire resistance in accordance with code.
 - iii. Grounding: When grounding of electrical systems is accomplished using structural members, design to prevent shock to occupants.
- c. Structure:** Design and provide load-bearing structural members in accordance with code and requirements of this specification.
 - i. Dead Loads: Design to resist loads from weights of materials, construction, and fixed service equipment.
 - ii. Live Loads:
 - Floors: Resist code prescribed loads; however, minimum floor live loads shall not be less than 100 psf (80 psf+20psf partition). Refer to Section V –*Physical and Environmental Requirements* for areas with heavy loading design requirements.
 - Roofs: In accordance with code.
 - iii. Environmental Loads:
 - Wind: In accordance with code.
 - Snow: In accordance with code.
 - Rain: In accordance with code.
 - Earthquake: In accordance with code.
- d. Durability:**

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B10. Superstructure

- i. Moisture Resistance of Load-Bearing Members: Use materials that are not damaged by contact with water or moisture vapor.
 - Materials that will corrode in the presence of water may be used if protected from water; or materials that will rot or be damaged by fungus may be used if protected from water.
- ii. Impact Resistance of Load-Bearing Members: Use materials that are not easily damaged by common hand tools.
- iii. Portions of Superstructure Exposed on Exterior: Comply with requirements of Section V—2.B *Shell* for water penetration, weather resistance, impact resistance, and wear resistance.
- e. **Floors:** Provide all floor construction above grade and within basements, including balcony, mezzanine and ramp floors, floors elevated for access, stair construction, and roof decks intended for occupant live load.
 - ix. Floor Flatness (FF): Provide floors on grade engineered and constructed to achieve degree of flatness as follows, when measured in accordance with ASTM E 1155- 1996(R01):
 - Resilient floor coverings:
 - Specified Overall Value (SOV): 35.
 - Minimum Localized Value (MLV): 24.
 - Carpeted floors:
 - a) Specified Overall Value (SOV): 25.
 - b) Minimum Localized Value (MLV): 17.
 - Subfloors under concrete topping; thick-set tile, mechanical rooms:
 - a) Specified Overall Value (SOV): 20.
 - b) Minimum Localized Value (MLV): 15.
 - Floors requiring better-than-average flatness/levelness:
 - a) Specified Overall Value (SOV): 45.
 - b) Minimum Localized Value (MLV): 30.
 - x. Floor Levelness (FL): Provide floors on grade engineered and constructed to achieve degree of levelness as follows, when measured in accordance with ASTM E 1155- 1996(R01):
 - Resilient floor coverings:
 - Specified Overall Value (SOV): 25.
 - Minimum Localized Value (MLV): 17.
 - Carpeted floors:

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B10. Superstructure

- Specified Overall Value (SOV): 20.
 - Minimum Localized Value (MLV): 15.
 - Subfloors under concrete topping; thick-set tile, mechanical rooms:
 - Specified Overall Value (SOV): 15.
 - Minimum Localized Value (MLV): 10.
 - Floors requiring better-than-average flatness/levelness:
 - Specified Overall Value (SOV): 35.
 - Minimum Localized Value (MLV): 24.
- xi. Provide sleeves through elevated floors at all MDF, IDF, Electrical and Mechanical rooms and the like to accommodate future expansion requirements.
- xii. Durability:
 - Exposed Interior Structural Floor Surfaces: See requirements for floor finishes in Section V—2.C.
 - Exposed Exterior Structural Floor Surfaces: See requirements for pavement finishes.
- xiii. Floors Elevated For Access: Use one of the following:
 - Access flooring manufactured specifically for the purpose.
 - Any type of construction authorized by code that allows access as required.
- f. Roofs:** Provide all roof construction, including canopies, and elements required for their support, insulation, fireproofing, and firestopping.
 - i. Thermal Performance, Including Elements on Top of Roof Deck:
 - Average Thermal Transmittance: U-value of not less than 0.05 IP.
 - ii. Air Barrier Under Deck: Provide continuous separate membrane that allows moisture vapor transmission while preventing air infiltration.
 - Air Leakage Rate: Comply with ASTM E 283 (R04).
 - Vapor Permeance: At least 1 perm, when tested in accordance with ASTM E 96/E96M—2005.
 - iii. Durability:
 - Exposed Roof Deck Surfaces: Comply with requirements for exposed floor durability discussed Section VI-2.B10.2.e.iv above.
 - Vapor Retarder Under Deck: Provide continuous separate membrane located on the warm side of the winter dew point.

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2. Systems Performance Guidelines
B10. Superstructure

- Vapor Permeance: 1 perm, maximum when tested in accordance with ASTM E 96/E96M—2005.
- Design and select materials in accordance with ASTM E 1677-1995(R00), including Appendices, and ASTM C 755-2003.

g. Do not use:

- i. Wood structural members.
- ii. Non-reinforced load-bearing masonry.

h. Maintenance Shops Facilities: Comply with the additional performance criteria or exceptions below:

- i. Special loads: Design for following special loading:
 - Vehicle Wheel Loads in maintenance bays 36,000 lbs. per axle
 - Exhaust or mechanical equipment
 - Vehicle lift reactions
 - Bridge crane reactions on foundations

3) Verification, evaluation and testing:

- a. Calculations and Certification: Provide complete structural calculations by a structural engineer currently licensed to practice in the State of Washington.
- b. Provide verification, by certification or test by an independent testing laboratory approved by the State, that materials conform to the Performance Criteria.

Section VI Design Guidelines
2. Systems Performance Guidelines
B20. Exterior Enclosure

B20. Exterior Enclosure

1) Requirements:

- f. Provide an energy efficient exterior closure system that will require minimal maintenance; will prevent moisture from entering the interior spaces of the building; and will prevent frost or ice from occurring on the heated interior surfaces of the building.**

2) Performance criteria:

- a. General:** Provide an exterior enclosure that complies with Section VI – 2.B *Shell*.
- b. Fire Resistance:** All materials of exterior enclosure should be non-combustible.
- c. Structure:**
 - i. Wind Design: No damage when tested in accordance with ASTM E 330-2002 at 1.5 times positive and negative design wind loads using 10 second duration of maximum load.
 - Deflection: 1/180 of span, maximum, unless otherwise indicated.
 - Unit Masonry: Maximum deflection of 1/180 of span.
 - Unit Masonry Veneer: Maximum deflection of 1/720 of span.
 - Members Supporting Glass: Maximum deflection of flexure limit of glass; with full recovery of glazing materials.
 - ii. Railing Assemblies: Resistant to required forces in accordance with code.
- d. Durability:**
 - i. Ambient Temperature Change: Allow for daily expansion and contraction within and between elements caused by temperature range from most extreme low temperature to 70 degrees F greater than the most extreme high temperature, in any year, without causing detrimental effect to components and anchorage.
 - ii. Water Penetration: Comply with requirements in the Section VI – 2.B *Shell*. Drain water, moisture, and condensation entering exterior wall assembly to the exterior.
 - iii. Joint Sealers in Exterior Skin: Life span expectancy equal to that specified for primary weather barriers.
 - Exception: Lesser life span, with minimum of 20 years, is acceptable providing the joint surface does not exceed 1 percent of

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2. Systems Performance Guidelines
B20. Exterior Enclosure

the face surface of the jointed area and the joint design provides secondary water-shedding design.

- iv. Vapor Retarder: Provide continuous separate membrane over entire exterior enclosure, located on the warm side of the winter dew point.
 - Vapor Permeance: 1 perm, maximum
- v. Impact Resistance:
 - Precast Concrete, Reinforced Masonry, and Metal Siding:
Resistant to permanent damage to supporting structure and exterior skin when tested with a test weight of 50 lbs.
- vi. Integral Interior Surfaces: Comply with requirements for Section VI – 2.C30 *Interior Finishes*.
- vii. Accelerated weathering:
 - Exterior metal panel surfaces, where used, should be capable of meeting the following requirements:
 - 400 hours in an atmosphere with 100% humidity and a temperature of 100 deg F with no appreciable deterioration.
 - Ultra-Violet - 150 hours at 150 deg F in Atlas Fadeometer with no appreciable deterioration.
 - Provide for resistance of materials to deterioration due to soluble or insoluble salts, alkali attack, corrosion, oxidation, insects and chemical attack.
 - Maintenance shop facility: provide materials that will resist chemical attack associated with normal shop operations.
- e. **Water Penetration:** See Section VI – 2.B *Shell*.
- f. **Noise Reduction:** Comply with requirements in the Section VI – 2.B *Shell*.
- g. **Impact Resistance:** In addition to requirements in Section VI – 2.B *Shell*, provide:
 - i. Elements Adjacent to Traffic Lanes: Resist damage from accidental passenger vehicular impact at 5 mph maximum velocity.
- h. **Exterior walls:** Provide physical separation between exterior and interior conditioned space that keeps out weather, unauthorized people, animals and insects.
 - i. Exterior walls consist of the supporting structure, the exterior skin, vapor retarders, air barriers, and insulation, the interior skin if an integral part of the wall, exterior screens and railings, balcony walls and parapets, exterior soffits unless they do not form a weather

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B20. Exterior Enclosure

barrier, firestopping and draftstopping within walls and between walls and floors, and other exterior wall elements.

ii. Thermal break: All exterior closure wall components containing heated spaces, (except doors and door frames), should provide for a "thermal break" from the inside surface to the outside surface. (No continuous thermal conductor from the interior surface to the exterior surface).

iii. Air infiltration:

- The public exterior entrances should have weather vestibules, i.e., two sets of doors separated by a vestibule.
- All exterior doors should be designed to limit air leakage into or from the building when in a closed position.

iv. Thermal expansion and contraction:

- Provide for noiseless expansion and/or contraction caused by surface temperature range 0 degrees F to 120 degrees F.
- Thermal warp - stressed skin (sandwich) panels should be limited to 1/175 for thermal warp. If stressed skin panels are utilized, provide movable connections at closure between exterior wall and columns or interior surfaces.

v. Joints and fasteners: All exposed work should be carefully matched to produce continuity of line, design and finish. Joints in exposed work, unless required for thermal movement, should be accurately fitted, rigidly secured and sealed watertight. All fasteners and attachment devices should be concealed.

vi. Deflection: The deflection of any framing member in the plane of the wall should not exceed 1/175 of its clear span or 3/4", whichever is less, except that when a plastered surface is affected, then deflection should not exceed 1/360 of the span.

i. Windows, Glazing and Wall Openings:

i. Provide glazing type and thickness in accordance with ASTM E 1300-2004; minimum thickness 6 mm for each lite.

ii. All exterior closure glazing should be insulating glass as follows:

- Double or triple glazed.
- Minimum outside glass thickness: 3/16", however, glazing should meet wind loading requirement specified in Section VI—2.B.
- Minimum air space: 1/2" dehydrated air space hermetically sealed.
- Plate or float glass should be Type I, Class I, minimum 1/4" thick.
- Tempered glass should be plate or float, 1/4" thick, fully tempered.

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- Maximum Thermal Transmittance of Any Individual Component: U-value of 0.61 Btu/sq ft/hr/deg F.

iii. Air Infiltration:

- Operable Openings Intended to be Normally Closed: Maximum of 0.10 cfm/sq ft, measured in accordance with ASTM E 283-2004 at differential pressure of 6.24 psf.
- Mechanical Ventilation Openings: Automatically closed when ventilation is not required. Unless ducted, maximum of 0.3 cfm/sq ft of crack when closed, measured in accordance with ASTM E 283-2004 at differential pressure of 6.24 psf.

iv. Acoustical Performance:

- Window Sound Transmission Class: Minimum 35 STC, as measured in accordance with ASTM E 90-2002 and classified in accordance with ASTM E 413-2004.
- Louvers: No objectionable air movement noise from mechanical equipment. Comply with code and local noise limits, applicable at residential windows near site.

v. Appearance:

- Sight Lines of Glazed Areas: Provide maximum glazing area with minimum interruption by framing members.
- Frames: Design frames of openings to give a nearly flush appearance with minimal shadow lines.
- Exposed Blade Louvers: Conceal vertical mullions.

vi. Fire Resistance: Provide as required to maintain fire resistance rating of exterior wall in which they occur.

vii. Forced Entry Resistance:

- Openings At the Ground Floor: Class III in accordance with ASTM F 1233-2000, minimum, and Grade 30, minimum, in accordance with ASTM F 588-2004.
- Openings Above the Ground Floor: Class I in accordance with ASTM F 1233-2000, minimum, and Grade 10, minimum, in accordance with ASTM F 588-2004.

viii. Operable Openings and Ventilation Openings: Equip with means of keeping insects, birds, and animals out.

ix. Structure:

- Lintels: Construct to span openings and support loads imposed by exterior wall; maximum deflection of 1/360 of span, vertically and horizontally.

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B20. Exterior Enclosure

- Wind Design: No damage when tested in accordance with ASTM E 330-2002 at 1.5 times positive and negative design wind loads using 10 second duration of maximum load.
 - Members Not Supporting Glass: Maximum deflection of 1/180 of span.
 - Members Supporting Glass: The deflection of any horizontal member supporting glass, when carrying its full design load, should not exceed 75% of the design clearance dimension between that member and the top of the panel, sash, glass, or any other part immediately below it. Under no circumstances should it exceed the maximum deflection of flexure limit of glass, assuming full recovery of glazing materials.
- x. Water Penetration: Design openings and components of openings to prevent water intrusion into interior of wall cavities, interior building and to positively drain water to exterior of the building.
- Air Intake and Exhaust Openings: Minimize rainwater penetration and protect adjacent interior spaces from damage from water.
 - Maximum Water Leakage: 0.01 oz/sf under most extreme conditions.
- Top of Openings: If wall construction does not provide its own methods of drainage, use separate flashing to prevent water from entering opening components or the interior of the building.
- Bottom of Openings: Integral or separate sill or flashing to prevent water running over or draining out of opening components from entering the wall construction below or the interior of the building.
- Moisture Barrier: Install moisture barrier at perimeter of window openings and into opening. Shingle lap barrier to shed water away from wall cavity and building interior.
- xi. Operation and Maintenance:
 - Cleanability: Design glazed openings to permit the exterior surface to be cleaned from inside or outside without removing window sash.
 - Operating Components: Remaining operable for service life of enclosure elements.
 - Mechanical Ventilation Openings: No moving parts on exterior of building or where accessible to occupants.
 - Operators for Moving Parts: Electric motor or pneumatically operated.

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B20. Exterior Enclosure

j. Doors:

- i. All doors should be a minimum of 3'-0" wide x 7'-0" high x 1 3/4" thick.
- ii. Metal doors should conform to Steel Door Institute standards and to the following:
 - Door faces - minimum 18 gauge.
 - Core - urethane foam to meet thermal requirements.
 - Vision panels - – should be low enough to see a person in a wheelchair as required by ADAAG; area per code.
 - Reinforcement for hardware - all doors to have provision for surface mounted closure whether called for or not.
 - All interior and exterior surfaces to be rust proofed and prime painted.
 - Doors should be full flush construction, mechanically stiffened.
- iii. Wood doors should not be used on exterior.

iv. Overhead doors:

- Overhead doors should be insulated panel segmented type with R value of not less than 14. In Maintenance Shop Facility bays, doors should be high rise to stack horizontally above bridge cranes.
- Materials:
 - Exterior face - minimum 18-gauge steel.
 - Interior face - minimum 24-gauge steel.
- Lock: Cam latching device and lock cylinder.
- Steel Finish: Galvanized with 1.25 oz. of zinc/sq. ft.
- Weather stripping: At bottom, head and sides of door, such that door assembly will be airtight.

v. Exterior finish hardware:

- Locksets or other functions should be of the heavy-duty full mortise type. Lockcases should be stamped steel and bright zinc plated. All parts should be bright zinc plated. Internal parts of brass, bronze, or plastic are not acceptable. All accessory items such as collars, indicators and level handles should be solid cast brass and through-bolted through the lockcase with finish of bolt heads (sex bolts) to match hardware. All functions should be of the lever type, knobs are not acceptable. Reversibility to be accomplished by removing the lock front and turning the latchbolts. All functions will incorporate the use of a solid spindle; split spindles are not acceptable.

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- Exterior doors: at least one door leaf in each set of doors and each single exterior door should have a lock and be low enough to open from a wheelchair. All exterior doors should have personnel exit devices where required by governing codes.
- Provide knurled or roughed surfaces on all levers to hazardous areas.
- Finish should be anodized and consistent with the other building elements.
- Mortise locks or latches should be equivalent to those manufactured by Best, Corbin Russwin, Sargent, or Schlage.
- Permanent Core Cylinder and Keys: Provide permanent cores for lock and latch sets; keyed to comply with State's BEST Master Key System.
 - Provide two (2) key blanks for each core cylinder and eight (8) master key blanks.
 - Final keying to be done directly by State.
 - Keys should be stamped "DO NOT DUPLICATE".
- Electric door locks should be used on all stairway exit doors, at fire control room and where proximity access control readers are used.
- Butts: All hinges should be ball bearing type; 1-1/2 pair per door minimum. Backing should be fastened to frame with minimum four screws per butt.
- Door closures:
 - Exterior public entrance doors – heavy-duty, cold weather fluid accepted. Doors should open with less than 8 pounds of pressure or be fitted with an automatic door opener.
 - Other exterior doors – medium duty, mounted on inside, cold weather fluid accepted
- Exit devices – Provide same finish as locksets.
- Kick plates - 1/8" clear plastic, 10" high x 2" less than door width, on inside of all exit doors.
- Weather stripping and thresholds: finish to match hardware, anodized aluminum for all locations using flush hollow metal doors.
 - Color anodized weather strip to match hardware using wool pile seal, (no vinyl should be used).

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- Threshold: Neoprene - insulated, thermal break.
Thresholds should be beveled if greater than ¼ inch high.
 - Provide door silencers on all doors.
 - Each kind of hardware should be obtained from one manufacturer only.
- vi. Aluminum storefront: Provide thermally broken frames and 1 inch tinted insulating glass. High performance glass and shading coefficient design should be considered.
- vii. Door frames:
 - Aluminum frames should be backed with reinforcing plates at least 1/2" thick at all points of stress; backing should be securely mounted. Avoid shimming by use of washers. All frames should be anodized.
 - Steel frames should be minimum of 14 gauge with appropriate jamb anchors and adjustable floor anchors. Hinge reinforcement should be 7 gauge. Strike reinforcement should be 12 gauge. Frames should be thermal break type, factory insulated.
 - Exposed fasteners are not permitted.
 - Use of "Knock-down" door frames requires approval of State.
 - All exterior metal door frames should be compatible with weather-stripping.
- k. **Maintenance Shops Facilities:** Comply with the additional performance criteria or exceptions below:
 - i. Superstructure should be structural steel. The roof structure should be a flexible metal deck diaphragm supported by steel bar joists bearing on steel wide flange beams. Beams should be supported by wide flange columns bearing on the foundation. The roof should be sloped at a minimum 1/4 inch per foot to allow for drainage.
 - ii. Mezzanine levels used for parts storage or second floor office space should have concrete floors cast on composite metal floor deck. Wide flange beams should support and act compositely with the floor slab.
 - iii. The lateral load resisting system for the maintenance buildings should be steel rigid frames in both the transverse and longitudinal directions. The rigid frames should be composed of roof beams and supporting columns. Frames should be sized based on the code prescribed wind or seismic loads.
 - iv. Structural framing should be provided with corrosion protective coatings based on the function of the spaces in which they are exposed.

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- v. Exterior framing should be detailed to allow for attachment of the architectural "skin" of the building.
- vi. Framing for support of jib type cranes should be provided based on cranes specified.
- vii. Exterior Walls: Facility walls should be a durable finish with minimal maintenance required such as an exterior wall composed of precast concrete panels designed to be self-supporting or concrete masonry units. Other acceptable system/materials include masonry, metal panel systems, and other veneer systems applied to metal stud backup. Consider use of local materials for sustainable design.
- viii. Glazing systems should provide natural day lighting in the Equipment and Shop Buildings for sustainable design.
- ix. Covered Storage Structural Systems:
 - Superstructure - The covered storage buildings will be open-air structures. The roof should be framed with structural steel.
 - Steel roof framing should be supported by cast-in-place concrete columns bearing on shallow spread footings. Lateral load resistance should be provided by the concrete columns.

3) Verification, evaluation and testing:

- a. Refer to the requirements in Section VI – 2.B.3**
- b. Calculations and Certification:** Provide complete lateral load structural calculations by a structural engineer currently licensed to practice in the State of Washington.
- c. Materials:** Provide verification, by certification or test by an independent testing laboratory approved by the State, that materials conform to the Performance Criteria.
- d. Door schedule:** Design Development: Provide a door schedule.
- e. Windows and glazing:** During construction: For standard manufactured fenestration products, certification of specified properties by NFRC or other testing agency acceptable to State; for other elements, test reports. Perform in-progress testing of window assemblies to assure adequate performance. Test window assemblies installed in the first two days following commencement of window installation. Following complete installation of windows and associated flashings, building wraps, and associated materials, but prior to installation of adjacent cladding arrange with AAMA-certified independent testing lab to construct temporary interior vacuum chamber and spray test assemblies per AAMA 502-90, Procedure B and ASTM E-1105-2000, Procedure B using a pressure differential of 8 psf.

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B30. Roofing

1) Requirements:

- a. **Provide a weather-proof enclosure over the entire building that sheds water and prevents uncontrolled water infiltration, withstands anticipated loading conditions, provides required access, and permits the entry of desirable natural light.**

2) Performance criteria:

- a. **Run-Off:** Direct water run-off to storm drains without splashing or dripping.
- b. **Noise of Precipitation:** Design and select materials that dampen the sound of precipitation on the roof to maintain interior ambient sound levels as required in Section VI—2.B.
- c. **Appearance:**
 - i. Color: Compatible with energy efficiency design.
 - ii. Cleanliness: In addition to requirements of Section VI—2.B for cleanliness of exterior surfaces, if roofing surfaces are exposed to view, use surface materials that will conceal dirt.
- d. **Ponding:** Arrange drainage of roof so no ponding will occur, regardless of whether roofing material will withstand ponding of water or not.
- e. **Roof covering:** Provide a weather-resistive covering over the roof and any exposed floor superstructure. The roof covering includes all weather-resistive components, including the primary weather barrier, vapor retarders, insulation, water collectors and conductors, wearing surfaces, trim and accessories, but not including roof opening elements or roof fixtures.
 - i. Flat Roofs:
 - Use Elastomeric roofing membrane UV stabilized.
 - Made of TPO, EPDM, PVC, or CSPE.
 - Installed over insulation and mechanically attached.
 - ii. Air Infiltration: If a jointless or completely sealed-seam or welded-seam membrane-type water barrier is not used, provide auxiliary method of complying with air infiltration requirements of Section VI—2.B.
 - iii. Fire Retardance: Provide ASTM E 108-2000 Class A roof covering, without the use of fire retardant treatment unless treatment is permanent.

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- iv. Roof Covering Substrate: Provide sufficiently rigid or dense substrate to support water barrier in a manner that prevents puncture due to traffic on roof.
- v. Wind Uplift: Where roof covering has a lower air transmission rate than the roof superstructure, provide means of preventing blow-off or ballooning due to low negative pressure over roof.
- vi. Life Span: Provide as required in Section VI—2.B, and the following:
 - Aesthetic Life Span: Significant degradation of appearance during the functional life span is not acceptable.
- vii. Water Conductor Capacity: Provide as required by code or SMACNA Architectural Sheet Metal Manual (ASMM), 1993, whichever is greater, based on 10 year 5 minute intensity.
- viii. Manufacturer Approval of Design: Where roof covering manufacturer recommends or requires certain design features for satisfactory performance or for warranty, comply with manufacturer's requirements.
- ix. Manufacturer Warranty:
 - Materials: 25 years, minimum.
 - Installation and Workmanship: 15 years, minimum.
- f. Roof Worker Safety:** Design to provide safe design and safety measures as required by code and the following:
 - i. Provide permanent access to all areas of the roof in the form of stairs.
 - ii. Provide permanently installed supports for equipment used for cleaning windows and other glazed areas of the shell.
 - iii. Provide a permanently installed fall restraint system in compliance with Code.
- g. Fire Resistance:** In addition to fire resistance specified in the end of, provide materials that will prevent roof surface catching fire due to external or internal fire sources.
- h. Physical Security:** Consider the roof area and all roof openings unsupervised.
 - i. Fixed Homogeneous Elements: Forced entry resistance of Class II in accordance with ASTM F 1233-1998(R04), minimum.
 - ii. Roof Openings and Assemblies: Forced entry resistance of Class II in accordance with ASTM F 1233-1998(R04), minimum, and Grade 10 in accordance with ASTM F 476-1984(R02) adapted to suit assembly.

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- i. Weather Resistance:** Provide weather-exposed roof coverings and other components that comply with weather resistance required in Section VI—2.B and the following:
 - i. **Minimization of Deterioration Due to Weather:** For weather-barrier materials, minimization means no deterioration that adversely affects water penetration resistance at any time during the specified service life span.
- j. Water Penetration:** Design and select materials to prevent water penetration into the interior of exterior wall cavities and the interior of the building at a static pressure difference of no less than 20% of the worst case inward acting wind load design pressure calculated for Cladding and Components in accordance with the code but in no case less than 8psf.
- k. Minimum Slope:**
 - i. Field of Roof: Minimum 1/2 inch per foot.
 - ii. Valley slopes: Minimum ¼ inch per foot.
 - iii. Water Conductors: 1/4 inch per foot
- l. Wear Resistance:** Surfaces subject only to maintenance foot traffic should not be punctured when stepped upon or by ordinary materials or tools.
 - i. Provide wear resistant traffic paths for maintenance access to all roof equipment.
- m. Operation and Maintenance:**
 - i. Ease of Service:
 - All parts of roofing should be easily accessible by maintenance persons on foot without the use of portable ladders or other devices.
 - Rooftop fixtures should be serviceable by simple replacement of parts, minimizing need for repair work in the weather.
 - ii. Ease of Repair:
 - The water barrier subject to foot traffic should be easily accessible for repair. If covered, covering must be removable by one person without the use of special tools and replaceable using the same tools.
 - iii. Ease of Replacement: As required in Section VI--1.
- n. Maintenance Shops Facilities:** Comply with the additional performance criteria or exceptions below:
 - i. In addition to specified mechanical equipment, utilities, hose reel banks, and other maintenance equipment that may be suspended from the roof, roof framing should be designed with an allowance for

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future additional loading that may occur. This allowance should be mutually determined by the architect and the structural engineer.

3) Verification, evaluation and testing:

- a. Roofing type and life:** In proposal, provide roofing material type, expected functional life span, expected changes in appearance over life span, and manufacturer warranty available.
- b. Post-construction:** conduct roof inspection in the first spring after completion of roofing, after chance of snow has passed.

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C. Interiors

C. Interiors

1) Requirements:

- a. **Provide appropriately finished interior spaces, equipped with interior fixtures to function properly as required in the Space Needs Program.**
 - ✓ **Provide finishes for interior surfaces that are appropriate for the functions of each space.**
- b. **Provide physical separation between spaces:**
 - ✓ **Achieve fire ratings required by code**
 - ✓ **Provide required security**
 - ✓ **Provide appropriate visual, atmospheric, and acoustical isolation between spaces.**
- c. **Interiors comprise the following assemblies:**
 - ✓ **Interior Construction: Construction necessary to subdivide and finish space enclosed within the shell, including interior surfaces of the exterior enclosure.**
 - ✓ **Interior Fixtures: All elements attached to interior construction that add functionality to enclosed spaces, *not including elements considered as equipment or Services fixtures found in RFP Section VI—2.D.***

2) Performance Criteria:

- a. **General:**
 - i. **Access:** Provide access to all primary interior spaces from Circulation.
 - Sole access to a primary interior space through another primary interior space should be avoided and is not allowed without State's written approval.
 - ii. **View:** Provide views to the building exterior or interior atria from most locations within primary interior spaces.
 - iii. **Natural Daylighting:** In the outer perimeter of buildings, provide ambient natural lighting in primary spaces adequate for essential tasks when measured on a mid-afternoon, overcast winter day.
 - **Light Levels:** Provide minimum light levels not less than those recommended in IESNA Lighting Handbook, 2000 or higher if identified, for the types of tasks to be anticipated in each category of space.
 - iv. **Acoustical Performance:**

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- **Background Noise:** Provide building assemblies, vibration isolation, and noise insulation that maintain ambient sound for mechanical system airborne and structure borne noise in occupied spaces at levels recommended in ASHRAE HVAC Applications Handbook, 2003.
 - **Noise Criteria:** Meet ASHRAE noise criteria (NC) in occupied spaces for all interior noise sources, including air flow noise, diffuser noise, noise from return air openings, air terminal noise, and noise transmitted through walls, floors and ceilings.
 - **Impact Insulation:** Provide floor-ceiling construction, including floor structure, floor finish, and ceiling finish, to produce a Field Impact Insulation Class (FIIC) value of 50, or lab tested value of IIC 55, when tested in accordance with ASTM E 1007-2004(E04).
 - **Reverberation:** Provide reverberation times in primary spaces for octave frequency bands of 500-1000 Hz as follows:
 - Offices, 0.5 se,
 - Conference Rooms, 0.75 sec (large)
 - **Articulation Index:** Provide articulation index (AI) for privacy between offices, instructional areas, and conference rooms of 0.05 to 0.10 when measured in accordance with ASTM E 1130-2002. For open offices, provide sound system masking or interior sound absorption treatment to meet an AI of 0.15 or less.
- v. **Egress:** Provide egress from all interior spaces in accordance with code.
- vi. **Fire Resistance:** Design and construct in accordance with code.
- vii. **Structural and Seismic Performance:** Provide interior construction and fixtures to support all loads required by code without damage.
- viii. **Life Span:** Same as building service life, except as follows:
- **Interior Doors and Other Operable Elements:** Minimum 15 years functional and aesthetic service life.
 - **Interior Ceiling Finishes:** Minimum 15 years functional and aesthetic service life; including suspended ceilings.
 - **Interior Wall and Floor Finishes:** Minimum 10 years functional and aesthetic service life.
 - **Other Interior Construction:** Minimum 15 years functional and aesthetic service life.

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- ix. **Wear Resistance:** Provide interior construction and fixtures that are suitable in durability for the degree and type of traffic to be anticipated in each space.
- x. **Cleaning:** Provide interior construction and fixtures that will not be damaged by ordinary cleaning and maintenance operations.
- b. Maintenance Shops Facilities:** Comply with the additional performance criteria or exceptions below:
 - i. None required.

3) Verification Evaluation and Testing:

- a. Natural light:** In proposal, provide information showing building configuration that will permit daylighting to levels required.
- b. Structural design:** In Construction Documents, provide detailed design analysis by Design-Builders structural engineer, licensed in the State of Washington.

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C10. Interior Construction

1) Requirements:

- a. Provide physical separation between spaces required by the Space Needs Program, constructed in accordance with code, and as necessary to maintain desirable conditions in each space, including:**
 - ✓ **Achieve fire ratings required by code.**
 - ✓ **Provide required security.**
 - ✓ **Provide appropriate visual, atmospheric, and acoustical isolation between spaces.**
- b. Provide appropriately finished interiors for all spaces as required by the Space Needs Program.**
- c. Interior construction comprises the following elements:**
 - ✓ **Partitions: All types of space dividers, including demountable and operable partitions, except for systems furniture.**
 - ✓ **Interior Doors: All interior doors, including hardware and frames, except for elevator doors.**
 - ✓ **Interior Windows: All interior fixed and operable windows, including frames and casings.**
 - ✓ **Other Interior Openings: Interior utility openings such as hatches and access panels, louvers and vents.**
 - ✓ **Stairs and Ramps: Those interior and exterior stair and ramp elements not a part of superstructure or exterior enclosure.**
 - ✓ **Interior Finishes: All functional and decorative applied interior finishes, including secondary support structures.**

2) Performance Criteria:

a. General:

- i. Airborne Sound Isolation: Provide interior construction to achieve minimum noise isolation class (NIC) values between adjacent spaces, when tested in accordance with ASTM E 336-2005 and classified in accordance with ASTM E 413-2004.**
 - **Selection of NIC value to be based on NC values, for mechanical system noise, and NIC partition performance which meets the Articulation Index criteria, both as required in Section VI—2.C above.**
- ii. Fire Resistance: Design and provide interior construction to achieve fire resistance required by code**

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- iii. **Cleaning:** At toilet rooms, trash collection rooms, and janitorial closets, provide interior construction that will allow harsh chemical cleaning without damage.
- iv. **Ease of Relocation:** Design for flexibility; interior building subsystems should be flexible, designed to interface with each other and accommodate space rearrangements without major modification. Comply with the requirements of Section VI—1.C.(14).

b. Partitions: Provide physical separation between spaces included in the Space Needs Program. Partitions include the following:

- ✓ **Fixed Partitions:** Solid, stationary space dividers that are opaque and extend full height to the ceiling (or structure above, if required for sound isolation, air quality control, security, or fire code).
- ✓ **Partial Height Partitions:** Fixed, solid, opaque visual barriers, including toilet compartments.
- ✓ **Demountable Partitions:** Fixed, solid, modular space dividers designed to be relocatable without significant damage to partitions or substrates.
- ✓ **Operable Partitions:** Movable barriers that form solid, visual and acoustical subdivisions of a space.
- ✓ **Fixed, Open Protection and Control Devices:** Barriers including interior railings.
- i. **Thermal Performance:** Where adjacent spaces have differential required temperatures in excess of 10 degrees F, provide minimum U-value of 0.61 Btu/sq ft/hr/deg F.
- ii. **Light:** Provide transparent or translucent fixed partitions or interior windows where appropriate to meet natural lighting objectives.
- iii. **Exterior View:** At primary interior spaces and offices without access to exterior windows, provide transparent fixed partitions or transparent interior windows that allow light and view through adjoining spaces.
- iv. **Visual Privacy:** Provide fixed, full-height or partial-height partitions at toilet rooms that afford visual privacy between adjacent stalls.
- v. **Acoustical Isolation:**
 - **Fixed Partitions:** Provide in-place FSTC values to achieve NIC values required for interior construction in Section VI-2.C above, when tested in accordance with ASTM E 336-2005 and classified in accordance with ASTM E 413-2004.

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- Partial Height Partitions: Where partial height partitions are permitted, including commercial toilet partition systems, acoustical isolation is not required.
 - Demountable Partitions: Provide system with STC value not less than 3 STC in excess of NIC requirements required for interior construction in Section VI-2.C above.
 - Operable Partitions: Provide systems with STC values not less than 3 STC in excess of NIC requirements required for interior construction in Section VI-2.C above.
- vi. Appearance:
- Provide partitions that are smooth in texture on the surface facing circulation paths.
 - Provide operable partitions that are compatible in appearance with fixed partitions in the same space; use similar materials, colors, and textures.
- vii. Fire Resistance: Provide fire ratings as required by code.
- viii. Structural Design:
- Horizontal Loads: Provide partitions to withstand horizontal loading conditions without excessive deflection or structural damage.
 - Fixed Partitions: Withstand loading of 5 psf with maximum deflection of $L/120$, per ASTM E 72-2005.
 - Elevator Shaft Wall Partitions: Withstand intermittent air pressure loads of 5 psf with maximum deflection of $L/120$, per ASTM E 72-2005.
 - Air Shaft Partitions: Withstand sustained air pressure loads of 10 psf with maximum deflection of $L/120$ per ASTM E 72-2005.
 - Partial Height Partitions: Withstand concentrated load of 200 lbf applied over not more than 10 sq in anywhere on partition surface.
 - Demountable Partitions: Withstand loading of 5 psf with maximum deflection of $L/120$, per ASTM E 72-2005.
 - Vertical Loads: Provide partitions to withstand vertical loads for wall-mounted handrails, equipment, and furnishings without excessive deflection or structural damage.
 - Partial Height Partitions: Withstand point load of 200 lbf applied every 2 feet to top of partition.

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- Demountable Partitions: Capable of supporting hanging components weighing up to 7 lbf/in
 - Lintel Loads: Construct to span openings in partitions while supporting applied loads with maximum deflection of 1/360 of span, vertically and horizontally.
 - Seismic Loads: Design in accordance with code.
 - Railings: Provide railings to withstand the following loads:
 - Concentrated load of 200 lb applied in any direction.
 - Uniform load of 50 lb/ft applied in any direction.
- c. Interior doors:** Equip appropriate partition openings so that openings can be closed or secured. Interior doors include doors of all sizes and uses, gates, and elements that form or complete the partition openings.
 - i. Acoustical Performance: Provide in-place FSTC values for partitions with interior doors that are not less than NIC values specified for interior construction in Section VI-2.C.
 - ii. Dimensions: Provide interior doors that are sized appropriately for their intended use:
 - Height: Not less than 80 inches in height.
 - Width: Not less than 36 inches in width, except for doors to small closets.
 - iii. Closing Devices: Not required unless specifically indicated or required by code; smooth closing motion, with slower latching speed than closing speed (non slamming).
 - iv. Appearance: Provide interior doors coordinated with adjacent wall surfaces, using similar materials, colors, and textures.
 - v. Fire Safety: Protect door openings in fire-rated walls and partitions in accordance with the code and the following:
 - Hold-Open Function: Provide at locations indicated in the Space Needs Program; provide any method that allows the door to swing freely and that automatically closes door upon detection of local fire or smoke.
 - Closers: Provide sufficient force to close and latch door despite drafts and wind, but not more than that required by code.
 - vi. Emergency Egress: Where doors must be latched or locked, comply with the code and the following:
 - Locking Devices Requiring a Key for Egress: Are not allowed.

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- Exit Doors Having Occupant Load of 50 or More: Use exit hardware that releases the locking/latching mechanism upon the application of a force in the direction of egress travel.
- vii. Locks: Provide keyed locksets for each room that allow simple, one handed exit from inside. Exceptions:
- The following should have no locksets:
 - Doors across corridors (if required for fire, smoke, acoustic confinement or privacy).
 - Doors to restrooms, shower rooms, and locker rooms.
 - Doors into exit stairwells must be secured from the "inside" rather than from the outside (i.e. secure from stair side).
 - Doors to bathrooms, water closet compartments, shower compartments, or single person restrooms may have privacy lock function (without key).
 - Doors to closets within a secured room do not require a keyed lockset, unless otherwise indicated in the Space Needs Program.
- viii. Forced Entry: Doors into secure zones defined in Space Needs Program should be capable of resisting forced entry:
- Swinging Doors: ASTM F 476-1984(R02) Grade 10.
 - Sliding Doors: ASTM F 842-2004 Grade 10.
 - Locks and Lock Cylinders: ANSI/BHMA A156.5-2001 Security Grade 1. Comply with State's BEST Master Key System.
- ix. Glazing in Doors: Comply with requirements for safety glazing, security, and forced entry as required to satisfy the Space Needs Program.
- x. Door Frames: Construct to span door opening with maximum deflection vertically and horizontally of 1/360 of span.
- xi. Wear Resistance:
- Door Surfaces: Provide scuff-resistant surfaces in areas where foot impact is likely and highly scratch-resistant in areas where hand contact is likely.
 - Door Handles and Knobs: Provide highly scratch-resistant products with finish that will minimize appearance changes due to wear. No plated or coated finishes allowed.
- xii. Swinging Doors: Control door swing to prevent damage due to impact to either door or element impacted.

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- xiii. Ease of Use and Repair: Provide doors that will be easy to use by occupants, easy to repair or service, and with operating components easy to replace.
- xiv. Life Span of Operating Components: Provide components with a life span greater than 10 years under normal use
- xv. Interior Pedestrian Doors: Use one of the following:
 - Hollow steel doors and frames.
 - Flush solid core wood doors.
 - Plate glass doors
 - Glazed aluminum doors.
 - Glazed bronze doors.
 - Glazed stainless steel doors.
- xvi. Security Grilles: Use either overhead coiling grilles or swinging gates.
- xvii. Fire Separation Doors, Non-egress: Use one of the following doors that complies with code:
 - Same type as other interior doors.
 - Coiling overhead doors.
 - Folding accordion doors.
- xviii. Closet Doors: Use either hollow steel doors/frames or flush solid core wood doors.
- xix. Door Frames: Use either steel or wood frames.
- xx. Vehicular Doors: Use same as required for exterior vehicular doors.
- xxi. Glazing in Doors: Use either glass or plastic, including following in accordance with code:
 - Wire Glass
 - Fully tempered glass.
 - Laminated glass.
- xxii. Door Louvers:
 - Louvers in Metal Doors: Use same material as doors.
 - Use fire rated louvers on fire rated doors.

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- Louvers in Wood Doors: Use one of the following in accordance with code:
 - Steel louvers.
 - Aluminum louvers.
 - Stainless steel louvers.
 - Wood louvers.
- xxiii. Hardware for Swinging Doors: Use the following:
 - Use satin finish, chrome, stainless steel, or bronze.
 - Hinges: Ball-bearing butt hinges, offset-hung pivots or continuous hinges.
 - Exit Devices: Mortise type, rim type, exposed vertical rod type or concealed vertical rod type.
 - Locksets: Mortise, bored (cylindrical), interconnected lockset and deadbolt, or unit type. Comply with State's BEST Master Key System.
 - Door Closers: Surface overhead frame-mounted type, surface overhead door-mounted type, concealed overhead frame-mounted type or concealed overhead door-mounted type.
 - Door Stops: Floor-mounted type, wall-mounted type or overhead door/frame mounted type.
 - Door Hold-Opens: Floor-mounted type, wall-mounted type or overhead door/frame mounted type.
- d. **Interior windows:** Provide interior windows between adjacent spaces where required by the Space Needs Program or where proper functioning of adjacent spaces requires a controlled visual or physical connection. Interior windows include operable or fixed windows but do not include glazed partitions. Interior windows also include requirements for window openings without glazing; specifically finished sills, head, and jambs.
 - i. **Light:** Provide transparent or translucent fixed partitions or interior windows where appropriate to meet natural lighting objectives.
 - ii. **Exterior View:** At primary interior spaces and offices without access to exterior windows, provide transparent fixed partitions or transparent interior windows that allow light and view through adjoining spaces.
 - iii. **Visual Privacy:** Provide interior windows equipped with translucent or obscure glazing where required for security or protection of visual privacy.

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- iv. Acoustical Performance: Provide interior windows with FSTC values that are not less than NIC values specified for interior construction in Section VI –2.C10 above.
- v. Dimensions: For operable interior windows, provide openings that are sized appropriately for objects, materials, and services likely to be transferred between adjacent spaces. Provide with sill wide enough to serve as counter and with track only at head.
- vi. Compatibility: Provide interior windows that are compatible in appearance with exterior windows in the same space, employing similar materials, colors, and textures.
- vii. Sight Lines: Provide maximum glazing area with minimum interruption by framing members. Do not use muntins to subdivide interior windows
- viii. Frames: Design to give a flush appearance with minimal shadow lines.
- ix. Fire Resistance: Provide window rating as required to maintain fire resistance rating of partitions.
- x. Emergency Escape: Provide minimum opening size required by code if interior window is required as secondary means of egress.
- xi. Forced Entry Resistance: Provide Class I in accordance with ASTM F 1233-1998(R04), minimum, and Grade 10, minimum, in accordance with ASTM F 588-2004 at interior windows adjacent to public circulation spaces.
- xii. Structural: Provide lintels to span openings and support loads imposed by partition with maximum deflection of 1/360 of span, vertically and horizontally.
- xiii. Life Span: At operable interior windows, design to withstand minimum 15 years of normal operation.
- xiv. Hardware at Operable Interior Windows: Provide highly scratch-resistant hardware and with a finish that will minimize appearance changes due to wear.
- xv. Ease of Use: Provide operable interior windows that can be opened and closed easily by hand and by exertion of not more than 10 lbf without requiring special tools or equipment.
- xvi. Operable and Fixed Interior Windows:
 - Window Operation: Use any of the following:
 - Double or single hung windows.
 - Casement out swinging or in swinging windows.

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- Projected out swinging awning windows.
 - Pivoting windows.
 - Fixed non-operable windows.
 - Glazing: Comply with code for interior glazing.
 - Frames and Sash: Use any of the following:
 - Aluminum.
 - Steel.
 - Wood windows.
 - Stainless Steel
 - Bronze.
- xvii. Fixed Windows: Where applicable, match operable windows in the same space. Comply with code for interior glazing. Use any of the following:
 - Aluminum.
 - Steel.
 - Wood.
 - Stainless steel.
 - Bronze
- xviii. Glazing: Comply with code for interior glazing. Use any of the following:
 - Heat-strengthened glass.
 - Fully tempered glass.
 - Laminated glass.
 - Spandrel glass.
 - Patterned glass.
 - Wired glass at lites in fire-rated openings.
- xix. Opaque Panels in Openings: Use one of the following:
 - Metal panels.
 - Wood panels.
 - Spandrel glass
- e. **Other Interior Openings:** Provide interior openings between adjacent spaces when required.

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- i. Air Circulation: Provide openings for air movement where required.
 - Louver where required for visual privacy.
 - Baffle where required for acoustical isolation.
 - Equip with automatic fire dampers where separations are fire-rated.
 - Natural circulation: Provide properly sized and located interior openings where required for natural ventilation.
 - Include method for restricting or eliminating air movement at occupants' option.
 - Include method for adjusting and directing air flow while maintaining visual privacy.
 - Return Air Movement: Provide properly sized and located interior openings to accommodate air return where required for proper operation of forced air heating and air conditioning systems.
 - Visual Privacy: Where air movement is required between adjacent spaces, provide interior openings equipped with sight-proof louvers where required for protection of visual privacy.
 - Acoustical Privacy: Where air movement is required between adjacent spaces specified to be acoustically isolated, provide sound attenuators that will maintain NIC values required in Section VI –2.C10.
- ii. Access: Provide interior openings, access doors, panels, and hatches where required for maintenance access to mechanical services and other concealed systems.
 - Design to be as unobtrusive as possible.
 - Provide floor hatches that are flush with finished floor surface or lapped not more than 1/4 inch above finished surface with tapered edges to present minimal tripping hazard.
 - Dimensions: Provide access panels and hatches that are sized appropriately for access to services, and utilities concealed by other construction.
 - Features: Provide access panels and hatches with concealed hinges, recessed latch, keyed cylinder, and hold-open device.
 - Compatibility: Provide access panels, hatches, and louvers that are compatible in appearance with the finished surfaces in which they are installed; use similar colors and textures.

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- Floor Hatches in Vehicular Areas: Provide floor hatches for garage capable of supporting minimum live load of 50 psi without permanent deflection.
 - Floor Hatches in Pedestrian Areas: Provide floor hatches for interior floors capable of supporting minimum live load of 150 psf without permanent deflection.
- iii. Expansion Joint Covers:
- Provide floor expansion joint covers that are flush with finished floor surface or lapped not more than 1/4 inch above finished surface with tapered edges to present minimal tripping hazard.
 - Vehicular Expansion Joint Covers: Provide expansion joint covers (if required) capable of supporting minimum 3000 lb/linear ft at fully expanded position without damage.
 - Pedestrian Expansion Joint Covers: Provide expansion joint covers for interior floors capable of supporting minimum 300 lb/linear ft at fully expanded position without damage.
- iv. Fire resistance: Comply with code.
- f. Stairs and ramps:** Provide interior stairs, ramps, and fire escapes as necessary to occupied spaces when required by code. In addition, provide interior stairs connecting related functions identified in the space needs program. Provide stairs to unoccupied roofs, mechanical spaces, and equipment or storage mezzanines.
- i. Stair Design: Design risers and treads, maximum rise, landings, guards and railings in accordance with code.
- ii. Pedestrian Ramps: Provide slope, landings, guards and railings in accordance with code.
- iii. Finish:
- Construct enclosed stairs with a highly finished appearance.
 - Construct exterior stairs with a moderately finished appearance.
 - Construct monumental stairs with a highly finished appearance.
- iv. Sound Isolation: Design enclosed stairs to provide a Noise Isolation Class (NIC) rating of at least 42 between stair enclosure and any adjacent primary space; tested in accordance with ASTM E 336-2005 and classified in accordance with ASTM E 413-2004.
- v. Safety:
- Safety tread and nosing: Provide safety tread and nosing on all stairs.

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- Slip Resistance: Provide exterior stairs treads that have a minimum static coefficient of friction of 0.80.
 - Treads: Provide treads that have a maximum bevel or radius on leading edge of 1/2 inch.
 - Do not use:
 - Stairs with winders
 - Spiral or circular stairs
 - Alternating treads stairs
- vi. Fire Resistance: Construct stairs and handrails of noncombustible materials.
- vii. Structural: Provide stairways, ramps, platforms, landings, guards and guardrails capable of supporting loads required by code
- g. Interior Finishes:** Provide appropriately finished interiors for all spaces required by the Space Needs Program.
 - i. Permeance: provide interior finishes at exterior walls and ceilings at roof level with vapor permeance of 1 perm maximum when tested in accordance with ASTM E 96/E96M-2005.
 - ii. Reflectivity:
 - Glare: Provide interior finishes that will not result in discomfort due to excessive contrast with light sources.
 - Ceiling Surfaces: Provide minimum 80 percent reflectivity, when measured in accordance with ASTM E 1477-1998a (Reapproved 2003).
 - Wall Surfaces: Provide minimum 50 percent reflectivity.
 - Floor Surfaces: Provide minimum 30 percent reflectivity.
 - iii. Acoustical Performance:
 - Sound Absorption: Provide acoustical absorption within interior spaces to achieve reverberation times within the limits specified in *Section VI – 2.C – Interiors* above.
 - Provide ceiling CAC ratings and NRC sound absorption ratings to conform to acoustical requirements for articulation index criteria and NIC criteria in *Section VI – 2.C – Interiors* above.
 - iv. Cleanliness: Provide wall and floor surfaces that are easily cleaned and suitable for intended use.
 - v. Slip Resistance:

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- For spaces subject to floor wetting, including entry lobbies, provide floor finishes with inherent slip resistance under wet conditions.
 - At building entries, provide means for reducing or minimizing moisture and debris on shoe soles.
 - At stairs and corridors, provide floor finishes with minimum static coefficient of friction of 0.60, measured in accordance with ASTM D 2047-2004.
- vi. Tactile Warning Surfaces: Provide floor surfaces that comply with detectable warning requirements at potentially hazardous locations, including top and bottom of stairs, top and bottom of escalators, top and bottom of ramps, and edge of loading dock.
- vii. Flammability:
- Walls and Ceilings in Exits and Corridors: Provide walls and ceilings with ratings not greater than the following, when tested in accordance with ASTM E 84-2005(E05):
 - Flame Spread: 25.
 - Smoke Developed: 450.
 - Floors in Exits and Corridors: Provide floor surfaces with ratings not greater than the following:
 - Critical Radiant Flux of 0.45 W/sq. cm, per ASTM E 648-2004.
 - Smoke Density: 450 or less specific optical density, per ASTM E 662-2005.
 - Walls and Ceilings in Primary Spaces: Provide walls and ceilings with ratings not greater than the following, when tested in accordance with ASTM E 84-2005(E05):
 - Flame Spread: 25.
 - And Smoke Developed: 450.
 - Floors in Primary Spaces: Provide floor surfaces with ratings required by code.
- viii. Floor Loading: Provide floor finishes that are capable of withstanding static loading of 125 psi without permanent deformation.
- ix. Durability:
- Wall Finishes: Provide integral or applied wall surfaces that are appropriate for anticipated usage and traffic, offering durability

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not less than would be provided by applied wall coverings as follows, classified in accordance with ASTM F 793-2005:

- SP1 Customer Contact: Category II-Decorative with Medium Serviceability.
- SP2 Occupant Work: Category IV- Type I Commercial Serviceability.
- SP5 Assembly: Category III- Decorative with High Serviceability.
- SP6 Meeting and Instruction: Category V- Type II Commercial Serviceability.
- SS2 Storage Rooms: Category IV- Type I Commercial Serviceability.
- SC1 Corridors: Category VI- Type III Commercial Serviceability. SC2 Lobbies:
- SC3 Waiting Areas: Category V- Type II Commercial Serviceability.
- SC4 Stairs: Category V- Type II Commercial Serviceability.
- SU1 Maintenance Facilities: Category V- Type II Commercial Serviceability.
- SU2 Utility Equipment Rooms: Category V- Type II Commercial Serviceability.
- Interior Wall Finishes at Exterior Walls: Provide surfaces that will not be damaged by incidental condensation from windows.
- Wall Protection: In mail rooms and freight receiving rooms, provide impact resistant wall bumpers and corner guards, or wall surfaces that are inherently resistant to impact damage due to rolling carts, gurneys, and hand trucks.
- Opening Protection: At partition openings intended to accommodate pedestrian or vehicular traffic, provide protection of opening edges in the form of door frames (cased openings), or corner guards.
- Flooring: Provide floor finishes that are appropriate for anticipated usage and traffic in each area, based on a 10 year replacement cycle.

h. Maintenance Shops Facilities: Comply with the additional performance criteria or exceptions below:

i. Office, Crew and Lab Areas:

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- Walls - Walls should be constructed of 5/8-inch gypsum board on metal studs complying with manufacturer's recommended gauges and spacing criteria. Conference rooms, training areas, and toilets should be provided with sound attenuating insulation blankets in the walls. Wall finishes should typically be painted. Toilet rooms should have a ceramic tile wall and finish. Resilient base material should be utilized in all remaining areas.
- Floors - The main pedestrian circulation corridor should be a sealed concrete. Conference rooms, offices, and corridors serving office areas should receive carpeting or sealed concrete depending on specific location. Toilet rooms should receive ceramic tile floors.
- Ceilings - Ceilings should be suspended acoustical ceiling material in a 24 by 24 inch size in all areas except toilets, janitor closets, and electrical closets. Toilets should be gypsum board with a water based epoxy finish.
- Door – Provide glazing in accordance with section VI-2.C10.c.ix above for all exit doors and doors that open onto main circulation corridors.

ii. Shop and Bay Areas

- Walls - Durable and minimally maintained walls including concrete masonry unit walls or precast concrete are recommended in Bay and Shop areas. Other considerations may be plywood wainscot walls up to eight feet high for durability.
- Floors - Concrete floors with an integral light reflective, nonmetallic floor hardener, and chemically bonded concrete sealer are recommended for Repair Bays. Concrete floors with a chemically bonded concrete sealer are recommended for Shop and Storage Areas.
- Ceilings - High gloss non-VOC paint of the exposed structure is recommended in Repair Bays, Shops and adjacent Storage areas for ease of maintenance.

iii. Covered Buildings

- Canopy construction should be concrete base encased columns, with a light brush blast finish, supporting a structural steel roof structure, with a High gloss non-VOC painted finish on all exposed surfaces of the structure and perforated metal deck.
- Floors - The site paving continues under the vehicle canopies. Concrete floors with a chemically bonded concrete sealer are recommended for the covered and enclosed storage buildings.

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3) Verification Evaluation and Testing:

- a. Interior doors:** In proposal, provide catalog examples of typical doors and hardware to be used in the project.
- b. Interior finishes:** In proposal, provide a schedule of proposed interior finishes in typical spaces. Include examples of interior materials critical to the design concept.

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C20. Interior Fixtures

1) Requirements:

- a. Provide fixtures attached to interior construction necessary for the complete and proper functioning of spaces required by the Space Needs Program.**
- b. Interior fixtures include the following elements:**
 - ✓ **Identifying Devices:** Informational accessories, including room numbers, signage and directories.
 - ✓ **Storage Fixtures:** Non-furniture items intended primarily for storing or securing objects, materials and supplies: includes cabinets, casework, closet fixtures, lockers, and shelving.
 - ✓ **Window Treatment:** Non-furnishing accessories for control of light, solar heat gain, privacy, and view at interior and exterior windows: includes blinds, shades, shutters, and curtain tracks.
 - ✓ **Accessory Fixtures:** Specialty items intended to provide service or amenity to building interiors: includes toilet and bath accessories, postal fixtures, visual display surfaces and telecommunications fixtures.
 - ✓ **Other Interior Fixtures:** Other items fixed to interior construction that enhance comfort or amenity in building spaces: includes service wall systems, planters, and fixed ladders.

2) Performance Criteria:

- a. General:**
 - i. **Accessibility:** Provide interior fixtures that are easily usable by disabled persons without outside assistance.
 - ii. **Light and Glare:** Provide interior fixtures that are not a source of direct or reflected glare.
 - **Written and Graphic Information on Interior Fixtures:** Should be clearly legible from typical viewing distances by occupants with normal eyesight.
 - **Surfaces Containing Written or Graphic Information:** Should be matte finished to reduce the incidence of veiling reflections.
 - **Trans-Illuminated Surfaces:** Should have luminance that is not more than 10 times brighter than surrounding surfaces under normal ambient lighting.

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- iii. Convenience: Provide interior fixtures with fittings and controls that are manageable without special instruction or the need for excessive force.
- iv. Appearance: Provide interior fixtures that are coordinated in design with other elements of interior construction, using compatible materials, colors, textures, and design features.
- v. Finish Texture: Provide durable, low maintenance exposed surfaces for interior fixtures that fall within normal reach of occupants.
 - Flat, Exposed Metal Surfaces: Provide finishes that are non-reflective rather than smooth polished surfaces.
 - Flat Metal Surfaces: Applied coatings are not permitted.
 - Hardware and Other Rounded Metal Surfaces: Provide polished or satin finishes.
 - Hardware and Other Rounded Metal Surfaces: Applied coatings are not permitted.
 - Plastic Surfaces: Provide matte, rather than glossy or polished finishes.
 - Flat Wood Surfaces: Provide low-gloss finishes, transparent or opaque finishes.
 - Curved Wood Surfaces: Provide transparent or opaque, high gloss, or semi-gloss finishes.
 - Concrete and Stone Surfaces: Provide honed or other textured, non-polished finishes.
- vi. Flammability: Provide interior fixtures made of materials with flame spread index of 25 or less and smoke developed index of 450 or less when tested in accordance with ASTM E 84-2005.
- vii. Structure: Provide suspended interior fixtures or portions of fixtures designed for storage or support of persons or objects that have been engineered and installed to withstand:
 - Live Loads: 1.5 times the anticipated live loads without excessive deflection or permanent distortion.
 - Seismic Loads: seismic forces that are 20 percent greater than those required by code.
 - Application: For design purposes, apply the component seismic force at the center of gravity of the component non-concurrently in any horizontal direction.
- viii. Durability:

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- Hinges and Latches: Provide heavy duty hardware, easily adjustable, providing minimum anticipated service life of 20 years.
 - Mechanical Controls: Provide movable cranks, rotors, pulleys, and levers designed for trouble-free operation over a minimum anticipated service life of 20 years.
- b. Identifying Devices:** Provide informational accessories, including room numbers, signage and directories.
- i. Room Label Signs: Provide room label signs for all primary spaces.
 - Apply room or function labels to doors or walls immediately adjacent to doorways.
 - Provide signs with feature allowing State to change information.
 - ii. Conference Room Signs: Provide easily switchable “In Use/Open” signs adjacent to room label signs for each conference room.
 - iii. Directional Signs: Provide directional signs at all building entrances.
 - Provide signs that offer guidance to, or information about, building functions or spaces, including directional signs, and locator maps.
 - iv. Architectural Signs: Provide architectural signs if required by the Space Needs Program.
 - v. Building Directories: Provide adequately sized directories at public building entrances and elevator lobbies on each floor.
 - Provide directories with programmable displays and/or with easily replaceable information strips without involvement of Sign Company or another agency.
 - Comply with accessibility requirements below.
 - vi. Accessibility:
 - Provide identification devices that comply with ADAAG-1994.
 - Function Labels: Provide graphic and Braille signs for the following building services and functions:
 - Stairways.
 - Elevators.
 - Toilets.
 - Hazardous areas.
 - Directional Signs: Provide accessible graphic and Braille signs in addition to any that are mounted above head height.

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- Building Directories: Provide accessible raised or recessed lettering in addition to listings protected by glass or plastic.
- vii. Visibility:
- Illumination Levels: Provide ambient lighting or equivalent backlighting adequate to provide clear visibility for normally sighted persons at typical viewing distances.
 - Wall-Mounted Corridor Signs or Signs Intended for Viewing at Less Than 5 feet: Provide minimum of 10 fc.
 - Signs Mounted above Head Height or Intended for Viewing at More Than 10 feet: Provide minimum of 30 fc.
 - Character Size: Provide signs with characters of adequate size to be seen comfortably by normally sighted persons at typical viewing distances.
 - Wall-Mounted Corridor Signs or Signs Intended for Viewing at Less Than 5 feet: Provide minimum character height of 5/8 inch and maximum of 2 inch.
 - Signs Mounted above Head Height or Intended for Viewing at More Than 10 feet: Provide minimum character height of 3 inches.
 - Building Directories: Provide minimum name strip height of 3/8 inch.
 - Reflectivity: Provide signs with matte surface measuring 11-19 degree gloss on 60 degree glossimeter; except that backlit signs may have glossy surfaces.
 - Contrast: Provide signs with contrast between characters and background of not less than 70 percent.
- viii. Appearance: Provide signage for entire project that is consistent in design with other interior features and coordinated with overall color scheme.
- ix. Safety: Provide Exit and Emergency Signs in accordance with code.
- x. Vandalism Resistance: For signs in public areas that are within reach, provide signs that are positively attached to substrate by concealed mechanical devices and not by double-sided tape, sealant, or adhesive.
- xi. Access to Lighting: For Illuminated signage, provide signage with system of quick access to lamps for State's maintenance personnel that will also prevent unauthorized tampering with lighting.

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- c. Window treatment:** Provide window treatments attached to interior construction that are necessary for adequate control of light, glare, privacy, and views for spaces with interior and exterior windows.
- i. Blinds: Provide window blinds at all exterior windows. Use one of the following:
 - Commercial grade horizontal aluminum blinds.
 - Commercial grade fabric shades using Hexel fabric.
 - ii. Accessibility: Comply with ADA Accessibility Guidelines and the following:
 - Provide accessible controls for all window treatments, regardless of location.
 - iii. Thermal Comfort: Provide window treatment throughout that enhances and controls interior thermal comfort.
 - iv. Light and Glare Control: Provide window treatment that will allow control of light transmitted through window assembly.
 - Fully Open Position: Maximum reduction of light level of 10 percent.
 - Fully Closed Position: Minimum reduction of light level of 50 percent.
 - v. Light and Glare Control with View: Provide window treatment that will allow control of light, glare, and solar heat gain in closed position while retaining some level of view to exterior.
 - Fully Open Position: Maximum reduction of or interference with view of 10 percent.
 - Fully Closed Position: Maximum reduction of or interference with view of 30 percent.
 - vi. Privacy: Provide window treatment where privacy is required that will allow complete visual privacy for room interior from observers at any angle to window when window treatment is in fully closed position.
 - vii. Condensation Resistance: Provide window treatment that is water-resistant and made of non-corrosive materials that will not be damaged by contact with condensation on window surface.
 - viii. Combustibility: Provide window treatments throughout the project that are made of totally incombustible or fire-retardant treated materials.
 - ix. Convenience: Provide controls that are conveniently located and easily operated.

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- Vertical Movement by Manual Controls: Maximum weight of window treatment of 20 lb.
- Horizontal Movement by Manual Controls: Maximum weight of window treatment of 60 lb.
- Provide motorized controls for weights in excess of limits above.
- x. Appearance: Provide window treatment that is coordinated with window modules and does not conflict with expression of architectural elements of interior construction.
- xi. Colorfast materials: Provide window treatment materials that are resistant to degradation from exposure to ultraviolet light.
 - Painted Aluminum: Maximum of 5 Delta E units (Hunter) color change as calculated in accordance with ASTM D 2244-2005 after 5 years of exposure.
- d. **Accessory Fixtures:** Provide accessory fixtures as required by code and the Space Needs Program.
 - i. Telecommunications Fixtures: Secure equipment to fixtures and secure fixtures to structure using anchorages capable of resisting forced removal by vandals or thieves using common hand-held tools.
 - ii. Mirrors:
 - Provide one for each lavatory, unless otherwise indicated.
 - Provide at stair landings to offer visual control of concealed conditions.
 - Broken Glass Hazard: Provide only fully tempered float glass for glass in fixtures.
 - Provide for broken glazing replacement without disassembly of frame.
 - iii. Grab Bars: Provide wherever required by code for safety and assistance in use of toilet and bath fixtures, especially at toilets and showers designed to be assessable.
 - Design strength: Design to provide strength, anchorage, and support as required to withstand 250 pounds-force applied vertically at the center between supports and 250 pounds-force tension applied at any support; design supports of sufficient rigidity to prevent rotation of bars under load.
 - Slip Resistance: Fixtures Expected to Support or Assist in the Support of Persons: Touchable surfaces having slip resistance of 0.50, measured in accordance with ASTM D 2047-2004, using wet conditions.

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- iv. Waste receptacles.
 - Provide one for each paper towel dispenser.
 - Provide one for every toilet in women's restrooms, for sanitary napkin disposal.
 - Provide waste receptacles with disposable liners or bags.
- v. Baby Changing Station: Provide one in each public restroom.
- vi. Electric Hand/Hair Dryers: Provide one for every 3 lavatories or less in a group.
- vii. Hooks for temporary storage of occupants' property: Provide one in each toilet compartment.
- viii. Provide holders and dispensers for toilet, sink, and bath supplies furnished by State.
 - Toilet Paper: Provide consumer-size roll; one dispenser per toilet.
 - Towels: Provide paper type, in rolls; one dispenser per 3 lavatories.
 - Toilet Seat Covers: Provide one dispenser per toilet.
 - Hand Soap: Provide one liquid dispenser for each lavatory.
 - Women's Personal Supplies: Provide for vending of sanitary napkins; one at each women's toilet room.
- ix. Servicing Holders and Dispensers: Provide capacity for accessory fixtures appropriate to servicing interval and expected use; State expects that refilling/emptying will occur at the following intervals:
 - Paper Towel Dispensers: Daily.
 - Toilet Paper Dispensers: Daily, with sufficient redundancy to prevent running out.
 - Toilet Seat Cover Dispensers: Daily.
 - Hand Soap Dispensers: Daily.
 - Waste Receptacles: Daily.
 - Personal Supplies Vendors: Daily.
- x. Provide holders and dispensers for cleaning supplies, utensils, and tools furnished by State.
 - Mops and Brooms: Provide for 6 items to be hung up in each janitor's closet, plus shelf for supplies.

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- xi. Visual Display Fixtures: Provide the configuration and surface area as indicated in the Space Needs Program.
 - Provide erasable surfaces identified in the program as marker boards or white boards.
 - Provide holders for writing materials below, and full length of, each area of erasable surface.
 - Provide tackable surfaces identified in the program as tackboards, for use with standard push pins.
- xii. Mounting Height of Visual Display Surfaces: Provide the required surface area within the "usable" areas as follows (additional area is allowable):
 - Erasable Surfaces: Not less than 30 inches above floor; not more than 72 inches above floor.
 - Tackable Surfaces: Not less than 36 inches above floor; not more than 72 inches above floor.
 - Projection Surfaces: Not less than 36 inches above floor; not more than 84 inches above floor.
- xiii. Appearance of Visual Display Surfaces:
 - Color: White surfaces are preferred.
 - Tackable Surfaces: Provide self-healing material or surface finish that minimizes visibility of ordinary thumbtack holes.
 - Flatness: Provide permanently flat surface without warp or bow.
- xiv. Projection Surfaces: Provide projection surfaces identified in the program as projection screens.
 - Design for viewers in movable seating who may be viewing television projection, 35 mm film, slides, overhead projection (transparencies), and/or computer display projections.
 - With projector in appropriate location, coordinate the surfaces and equipment provided with the room/space design, lighting, and sound reinforcement equipment for optimum viewing at all normal seating locations.
 - Design to avoid hot spots, loss of resolution, excessive dimming of image, or difficulty of hearing.
 - Visual Properties of Projection Surfaces:
 - Provide contrast and resolution sufficient to provide accurate viewing at all normal seating locations in the room or space.

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- Control ambient light rejection as required to provide minimum gain under design lighting conditions.
 - › Conference Rooms: Design for minimum gain of 1.0 at all locations within 30 degrees of viewing axis.
- Fire-retardant: Free-hanging and tensioned fabric screens must be flame retardant in accordance with code.
- Projection Surface Access: Provide either permanently exposed surfaces in locations required or surfaces that are easily assembled or lowered without the use of tools.
 - Concealed Projection Surfaces: Provide up/down controls conveniently located near space entrance(s) and to presenter's location. Minimize potential for tampering by audience members.
- e. **Maintenance Shops Facilities:** Comply with the additional performance criteria or exceptions below:
 - i. None required.

3) Verification Evaluation and Testing:

- a. **None required for this subsection**

C30. Indoor Air Quality

1) Requirements:

- a. **Develop an Indoor Pollutant Source Control Plan** indicating how indoor air quality standards will be implemented, evaluated and tested.
- b. **Comply with *Indoor Air Quality Guidelines, Appendix X, Instructions to Architects and Engineers*, published by the Division of Engineering and Architectural Services, General Administration.**

2) Performance criteria:

- a. **General:** Comply with the *Indoor Air Quality Guidelines*, referenced above, for all interior construction materials, finishes and furnishings, including partitions, wall coverings, flooring, ceiling tiles, adhesives, paints, sealants, insulation, duct work, wiring and other materials.
- b. **Emission Rate Standards:** All materials used in the building should meet, at a minimum, the *Emission Rate Standards* specified in the *Indoor Air Quality Guidelines*, referenced above.
 - i. Where possible, materials used should emit the lowest, yet technologically achievable emissions of particles and chemical vapors.
- c. **Notification:** The Design-Builder should provide written notification to all material suppliers of the requirement to comply with the Emission Rate Standards.
- d. **Disclosure:** The Design-Builder should disclose in writing to the State prior to the installation of any materials, furnishings and finishes, any detectable amounts of substances which are emitted into the indoor air and are identified in the *Indoor Air Quality Guidelines*.
- e. **Installation of "Wet" and "Dry" Materials:** During construction, the following procedures should be followed:
 - i. The least amount feasible of "wet" materials (i.e., adhesives, sealants, glazes, caulks, paints, etc.) should be used during construction and applications.
 - Control strategies for achieving minimal use of "wet" materials should be presented to the State for prior approval before such "wet" materials are used.
 - No wet materials should be installed during flush-out period.
 - ii. Dry" furnishing materials (such as carpet, acoustical panels, textiles, etc.) should not be installed until "wet" materials have been applied and allowed to dry where possible.

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- Drying times should be chosen so pollutant emission rates are achieved prior to installation of "dry" furnishing materials.
- f. Indoor Air Quality Operations Plan:** The Proposer should develop an Indoor Pollutant Source Control Plan indicating how indoor air quality standards will be implemented.
 - i. The plan should comply with the *Indoor Air Quality Guidelines*, referenced above.
 - ii. Provide an Indoor Air Quality Operations Plan which includes, but is not limited to, the following:
 - Requires the off-site pre-finishing of products that may have emissions of particles and/or chemical vapors.
 - Restricts the use of spraying equipment inside buildings.
 - Requires the protective capping of open ends of newly installed ductwork.
 - Requires MDS sheets on all glues, adhesives, sealers, caulking, mastics, cleaners, paints, thinners, and related products to be submitted to the State.
 - Requires that during construction all these products to be stored with sealed lids outside of the new buildings.
 - Requires temporary filters to be placed on all HVAC supply and returns when the system is operated during construction.
 - Ensures that filters are replaced when visible dirt loading is apparent.
 - Ensures that HVAC filters are replaced before occupancy.
 - Provides for HVAC design and operating documentation as recommended by the equipment manufacturers and the design engineer.
 - Provides for initial balancing of the HVAC system at the occupied zone before Substantial Completion and before Final Acceptance.
 - Requires a building flush-out period of high ventilation at ambient temperatures (100% outside air) which occurs after completion of all interior construction and prior to placing any furniture in the ventilated space; and requires a second flush-out period after all furniture has been unpacked and placed in the ventilated space (minimum two weeks); all of which should be scheduled and occur prior to Substantial Completion (Balancing and Commissioning may take place during this flush out period).
 - Requires an extended ventilation flush period after Substantial Completion and occupancy at the normal ventilation rate (Include length of time for 24 hour per day operation and length of time and duration for early start up of HVAC systems).
 - Recommends products to use, or not use, for on-going building maintenance.

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- Provides the scope and content of a training program for the State's maintenance staff to properly operate and maintain the HVAC systems under all operating conditions to meet IAQ goals and ventilation standards.

3) Verification Evaluation and Testing:

a. Testing:

- i. In Proposal, provide an IAQ testing procedure and schedule that will ensure minimum standards are met during construction and after flush-out.
- ii. Provide verification, by certification or test by an independent testing laboratory approved by the State that design and materials used conform to the Performance Criteria.
- iii. All test data should be made available to the State prior to installation.

b. Indoor Air Quality Assessment: During Design Development, conduct an IAQ assessment that, at a minimum, includes:

- i. A determination of the adequacy and effectiveness of the ventilation system and the control of indoor pollutant sources.
- ii. An analysis of the adequacy and effectiveness of the proposed mechanical HVAC system, including the following:
 - The location of building outdoor air intakes to ensure an acceptable quality of outdoor air.
 - Analyze prevailing wind directions and locate air intakes upwind of the air exhaust and/or sources of airborne pollutants.
 - Take special care to place air intakes upwind from the exhausts from the Materials Laboratory.

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D. Services

1) Requirements:

c. Provide the following services for buildings in the Project:

- **Conveying Systems (D10):** Provide mechanized means of conveying people and goods, as required in the Space Needs Program.
- **Water and Drainage (D20):** Provide means of delivery of water to points of utilization; automatic heating and conditioning of domestic water; and removal of water, rainwater, and liquid waste.
- **HVAC (D30):** Provide means of maintaining interior space comfort and air quality, including heating, cooling, ventilation, and energy supply.
- **Fire Protection (D40):** automatic fire detection, suppression, and warning; automatic smoke control; and manual fire-fighting equipment.
- **Electrical Power (D50):** Provide energy to operate all electrically-operated devices, including provision of emergency power source for the buildings.
- **Artificial Lighting (D52):** means of lighting spaces and tasks, both interior and exterior, coordinated with the use of natural light.
- **Communications and signals (D53):** Provide services that include voice and data, cabling and termination.
- **LEED and energy analysis (D60):** Provide analysis and documentation of energy consumption for proposed building systems, including methods for compliance with LEED “Silver” certification.
- **Other Services (D90):** Provide other services including a security system, closed circuit television surveillance (CCTV), and masking noise system.

2) Performance criteria:

a. Connect to Utility Sources and Outlets:

- i. Water Source: City of Lacey
- ii. Sewage Disposal: Connect building sewer to the City of Lacey sewage system.
- iii. Rain Water Drainage Outlet: On-site storm retention facility. If appropriate for LEED, consider retention of rainwater for use in irrigation system.

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- iv. Electrical Power Source: Puget Sound Energy.
- v. Natural Gas Supply: Puget Sound Energy
- vi. Communications Services: Provided by State in accordance with Section VI –2.D53.
- b. Artificial Illumination:** Provide illumination for all interior spaces that is adequate in level and quality for performance of tasks has required in the Space Needs Program, regardless of the availability of natural light.
 - i. Lighting Levels: Provide maintained ambient luminance values for various activities that are within the ranges required in the IESNA Lighting Handbook-2000 and the Space Needs Program.
 - ii. Accent Lighting: In addition to general and task illumination, provide lighting on architectural features, displays, and artwork in focal areas to produce luminances that are within the range of 5:1 with respect to ambient background.
 - iii. Controls: Provide controls per code and integrate to the General Automatic Control System.
- c. Equipment Producing By-Product Heat:** Ventilate housings and cabinets as required by equipment manufacturer and rooms and spaces as required to maintain required environmental conditions.
- d. Moisture:** Prevent condensation from forming on service elements.
- e. Airborne Sound:**
 - i. Maintain the sound transmission characteristics of assemblies through which services must pass.
 - ii. Plumbing Noise: Restroom plumbing and piping noise must measure at 10 points below the required NC rating for all adjacent occupied spaces. Control noise from toilet and lavatory valves, fixture noise (splashing), showers, plumbing waste and supply lines.
 - iii. Equipment Noises: Control noise level below that which will be objectionable, based on occupancy of spaces.
- f. Structure-Borne Sound and Vibration:** Prevent transmission of perceptible sound and vibration from services equipment that rotates, vibrates, or generates sound, by isolating such equipment from superstructure or by isolating equipment support foundations from building foundations.
- g. Cleanliness:** Prevent accumulation of debris and dirt at floor mounted equipment, such as air handlers, chillers, pumps, switchgear, and panelboards by providing 4 inch thick, concrete housekeeping pads.
- h. Odors:** Eliminate, isolate, or exhaust odors produced by occupant functions and building services.

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i. Appearance:

- i. Conceal services elements from view to greatest extent possible, with exposed portions of simple, neutral design and color. Exception: standard designs of manufacturers may be used for fire suppression sprinkler heads.
- ii. Where exposed service elements are acceptable, do not obstruct or diminish clear dimensions of doorways, windows, other operable openings, access panels and cabinet doors, or passageways, stairs, and other exit ways.
- iii. Where exposed piping is acceptable, install it close to walls and overhead structure, parallel and square to finished construction, plumb and nominally horizontal (except where required to slope for drainage).
- iv. Where exposed service elements are acceptable cover annular spaces around exposed pipes, ducts, and conduits, where they pass through walls, ceilings, and floors with escutcheons or cover plates.
- v. Mountings: On finished surfaces, use concealed attachments with cover plates, frames, or trim overlapping finishes.

j. Fire Safety:

- i. Maintain fire resistance of walls, floors, ceilings, and other fire-rated assemblies that services must pass through, in accordance with requirements of the chapter in which the fire-rated assembly is specified.
- ii. Provide fire-rated separations between equipment rooms and other spaces where required, and as specified by, the code.
- iii. Combustible pipes may be used only where buried if outside building.

k. Safety Hazards: Avoid safety hazards wherever possible; where services must involve flammable materials or hazardous operations, comply with code.

l. Toxic Materials: Do not use lead or lead-containing materials in potable water systems.

m. Vermin Resistance: Use components that are resistant to the entry of rodents and insects.

n. Structural support:

- i. Provide supports for piping, conduit, ducts, and components: Attach elements to the superstructure (not to non-structural construction or sheet metal elements) so that they do not move or sag, using the following:

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- Provide supports that allow movement of the rigid linear elements (pipe, etc.) without undue stress on the piping, tubes, fittings, components, or the superstructure.
 - Provide intermediate supports mounted between structural members to limit distance between supports.
 - Provide supports capable of handling seismic forces in accordance with the code.
 - Provide mounting frames, bases, or pads, designed for ease of anchorage or mounting.
 - Provide rigid sway bracing at changes in direction of more than one-half of a right-angle, for all pipes.
- ii. Structural design of components and their supports: Design in accordance with code.
- Safety Factor for Component Structural Elements: Two; based on weight of component.
 - Anchors: Securely and positively attach all services components to superstructure.
- iii. Concealed or buried components: Design cover or concealment so that components are not subjected to damaging stresses due to applied loads.

o. Durability:

- i. Expected Service Life Span: Same as the service life of the building, except as follows:
- Ducts, Piping, and Wiring in All Services: Same as the service life of the building.
 - All Components Permanently Installed Underground or Encased in Concrete: Same as service life of building.
 - Conveying Systems: Minimum 20 years.
 - Software and Firmware Integral to Operation of Services Equipment: Minimum 20 years functional life without reprogramming required.
- ii. Weather Resistance:
- All components exposed to outdoor environment must comply with the requirements of Section VI –2.B Shell; equipment enclosures are considered the equivalent of the exterior enclosure.
 - Buried Water Piping: Minimum of 24 inches; except for irrigation piping.

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- Services Passing from Inside to Outside: Openings through shell sealed as required meeting the performance of Section VI –2.B *Shell*.
- iii. Condensation: Provide insulated drain pans and piping to remove condensation from cooling coils. Connect drain pan to building drainage system in accordance with code.
- iv. Moisture Resistance: Where components are mounted to surfaces that are required to be moisture-resistant, seal mounting surface of components to finish surface so that moisture cannot penetrate under or behind component, using material that is not affected by presence of water, that is mildew-growth resistant, and that has a minimum service life of 10 years.
- v. Temperature and Humidity Endurance: Design equipment to endure temperature and humidity that will be encountered and to resist damage due to thermal expansion and contraction.
- vi. Corrosion Resistance: Prevent corrosion by using corrosion-resistant materials, by preventing galvanic action, by preventing contact between metals and concrete and masonry, and by preventing condensation on metals.
 - Metals Considered Corrosion-Resistant: Aluminum, stainless steel, brass, bronze, cast iron, ductile iron, malleable iron, hot-dipped galvanized steel, chrome-plated steel, cadmium-plated steel, and steel coated with high-build epoxy or coal tar-based paint.
 - Piping Connections for Piping of Dissimilar Metals: Dielectric adapters.
 - Underground Elements: Provide supplementary protection for underground metal pipes, ducts, conduits, tanks, and the like sufficient to prevent corrosion completely, for the service life of the element without maintenance.
 - 3 inches of concrete cover is considered to be permanent protection.
 - Bituminous or other waterproof coating or wrapping is considered permanent protection unless cathodic protection is required and unless underground element is subject to movement due to structural loads or thermal expansion or contraction.
 - Provide cathodic protection if any of the following is true; coatings or wrappings will not be considered sufficient protection for elements falling under these criteria:

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- › Metal elements are submerged or buried in a soil environment known to cause corrosion on similar nearby structures.
 - › Metal elements are submerged and buried in a soil environment in which stray DC electrical currents are present.
- vii. Accidental Water Leakage: Locate components that would be damaged by water leakage from pipes, through foundations or roof out of the way of possible paths of water and at least 4 inches above floor level.

p. Capacity:

- i. Water and Drainage: As required by code.
- ii. Heating, Cooling, and Ventilating: Maintain interior environment within ranges specified the Section V Space Needs Program. Design HVAC to provide a maximum of 100% of design load per code.
- iii. Fire Suppression: As required by code and as required in Section VI-- 2.D40.
- iv. Electrical: As required by code and as specified in Section VI-- 2.D50.
- v. Communications: As specified in Section VI-- 2.D53 and the Section V Space Needs Program.

q. Ease of Use:

- i. Access: Locate all mechanical and electrical equipment to allow easy access. Provide access doors for equipment accessed through walls, partitions, or fixed ceilings of appropriate size for required access and maintenance.
 - Communications and electrical equipment rooms should be in separate rooms and not share the same access.
- ii. Valves and Other Control Devices: Provide accessible handles, switches, control buttons; valve handles on upper or otherwise accessible side; provide chain or other remote operators where located out of normal reach.
- iii. Space Around Components: Provide working clearances and access routes as required by code, to allow for equipment replacement and as recommended by component manufacturer.
- iv. Testing: After completion of installation, prepare services for starting-up by testing appropriately for proper operation.

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- v. Commissioning: Prepare services for use by eliminating operational anomalies, adjusting control systems for optimum operation, and demonstrating proper functioning.
 - vi. Preparation for Operation: Provide assistance for the State's preparations for operation as follows:
 - Demonstrate all services to State's personnel.
 - Train State's personnel in the operation of all service systems.
- r. Ease of Cleaning:** Design equipment mountings to allow easy cleaning around and under equipment, without crevices, cracks, and concealed spaces where dirt and grease can accumulate and with raised, closed bases for equipment mounted on the floor.
 - i. Where appropriate, provide equipment with removable access panels to allow cleaning.
- s. Ease of Maintenance and Repair:**
 - i. Piping Other Than Gravity Drains: Provide means of isolating convenient portions of piping system, so that small portions may be shut down leaving the remainder in operation and so that drainage of the entire system is not required to enable repair of a portion of it.
 - ii. Piping: Provide that entire systems can be drained without disassembly of piping.
 - iii. Above Ground Piping: Label to identify contents and direction of flow, each shut-off valve, each piece of equipment, each branch take off, and at 20 ft maximum spacing on exposed straight pipe runs.
 - iv. Equipment in Piping Systems: Provide each unit with a union or flanged connector at each pipe connection to allow easy removal.
- t. Ease of Equipment Service:**
 - i. Lighting: Provide adequate lighting for locating and operating equipment; emergency lighting for critical components.
 - ii. Do not locate any equipment requiring maintenance in attics or in crawl spaces, where access must be through attics or crawl spaces, or where access is not possible using removable panels or doors.
 - iii. Rooftop Equipment: Provide type that is serviceable by relatively quick replacement of parts, minimizing time required on roof, and eliminating need to perform repair work in the weather.
 - iv. Parts Having Service Life Less Than That Specified for Element: Ensure that parts are easily replaceable, without de-installation or de-mounting of the entire element, component, or equipment item.

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- v. Valves: Ensure that internal parts are easily replaceable, without the necessity of removing the entire valve for repair.
- vi. Parts: should be readily available from stocking distributors within 50 miles of project location.
- u. **Ease of Equipment Removal:** Provide doors and corridors large enough for removal of major pieces of equipment, such as, chillers, and boilers.
- v. **Maintenance Shops Facilities:** Comply with the additional performance criteria or exceptions below:
 - i. None required.

3) Verification, Evaluation and Testing:

- a. **Systems used:** In proposal, identify and describe each of the service systems to be used including capacities, sources, and method of distribution.
- b. **Airborne noise:** In proposal, identify potential sources of high airborne noise and the methods for mitigating noise problems.

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2. Systems Performance Guidelines
D10. Conveying Systems

D10. Conveying Systems

1) Requirements:

- a. Provide conveying systems as required to fulfill basic project functions.
- b. Conveying systems move people or freight between levels and include all components for passenger and service elevators, including items such as shaft rails, pit ladders, exhaust louvers, and car and hoistway doors.
- c. Provide conveying systems for moving people when building is more than 1 story tall and movement of people between floors is required.
- d. Provide conveying systems for moving materials when building or portion of building is more than 2 stories tall, and the need for occasional movement of large objects, materials, equipment, or people between floors is probable.

2) Performance criteria:

- a. **Accessibility:** Provide at least one accessible passenger elevator complying with code that serves every habitable level.
 - i. Provide passenger elevators that comply with the Americans with Disabilities Act Accessibility Guidelines (ADAAG) and as follows:
 - Passenger Cars with Center-Opening Doors: Minimum interior clear dimensions of 65 inches deep and 80 inches wide, with controls located on front wall, both sides.
 - Service/Passenger Cars with Side-Opening Doors: Minimum interior clear dimensions of 97 inches deep and 68 inches wide, with controls located on front wall.
 - ii. Minimum Load Capacity: 3,500 lb Passenger; 4,500 lb. Service/Passenger
 - iii. Minimum Height: 96 inches.
 - iv. Cars: Capable of carrying passengers and equipped with removable finish protection.
- b. **Location:** provide vertical conveying system (when required by other requirements) as close to centrally positioned as possible, for maximum convenience and minimum travel times.
- c. **Sound Levels:**
 - i. Maintain ambient sound levels in spaces that include or are adjacent to operating conveying systems within levels specified in Section VI—2.C - Interiors.
 - ii. Within cars, while in normal speed of operation, noise level should not exceed 60dBA. Ventilation fan noise within cars should not exceed 55dBA for fan noise alone.

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2. Systems Performance Guidelines
D10. Conveying Systems

- d. Convenience:** Provide passenger conveying system that provides the following convenience levels:
 - i. Provide a minimum of 2 cars in any single bank of elevators.
 - ii. Interval: Maximum of 30-35 seconds.
 - iii. Handling Capacity: 14 percent of building population to be carried in 5 minutes.
 - iv. Average Travel Time: Maximum of 60 seconds.
 - v. Minimum Ultimate Elevator Speed: Up to 5 floors: 350 fpm.
- e. Appearance:** Provide conveying systems that appear to be solid and monolithic in appearance, using opaque enclosures and massive materials. Car and hoistway door finishes should comply with Section VI—2.C Interiors.
 - i. Elevator Doors: Provide doors all elevators that are clad with brushed stainless steel.
 - ii. Control Panels: Provide control and annunciator panel surfaces at passenger elevators that are clad with brushed stainless steel.
 - iii. Railings: Provide protective railings at sides and rear of passenger elevators that are made of brushed stainless steel.
- f. Fire Resistance:** Where vertical conveying systems must pass through fire resistant floor construction, provide fire resistance in conformance with code.
 - i. Shaft Enclosure: Not less than 2 hour fire resistance rating.
 - ii. Doors: Not less than 1-1/2 hour labeled fire protection rating.
 - iii. Number of Vertical Conveyances per Enclosure: Not more than 2.
- g. Expected Service Life Span:** Provide conveying systems with functional service life the same as specified for the project, assuming that they will have continuing professional maintenance and periodic replacement of wearing parts.
- h. Ease of Use:** Provide conveying systems that operate automatically or in response to passenger input, without intervention by operators.
- i. Minimization of Misuse:** Provide conveying systems with features and mechanisms that will prevent or minimize unsafe conditions or inconvenience attributable to vandalism, pranks, or deliberate sabotage.
- j. System Maintenance:** Provide conveying systems designed to require minimum maintenance.
 - i. Provide elevator cab construction to allow access to the emergency communications device (telephone) box from inside the cab without removing the back wall.
- k. Operating Features for Elevators:**
 - i. Provide key switch in each elevator car for independent operating service.
 - ii. Provide for card reader controlled floor buttons in all elevator cars for access to floors above the ground or main entrance level.
 - iii. Provide Intercom in accordance with Code.

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2. Systems Performance Guidelines
D10. Conveying Systems

- iv. Provide Emergency Communications Device (telephone) in accordance with Code.
- v. Provide automatic load weighing bypass.
- vi. Provide false car call canceling.
- vii. Provide Emergency power operation of all cars in accordance with Code.
- viii. Passenger Elevator Operating System: Two Car Bank: Provide duplex collective operation, service.
- l. Do Not Use:** Hydraulic elevators for primary passenger service.

3) Verification, evaluation and testing:

- a. Performance:** In proposal, provide performance information for proposed elevator systems including number of elevators, estimated average wait interval (in seconds) during busiest time of operation, and the average travel time from top floor to ground floor.

Section VI Design Guidelines
2. Systems Performance Guidelines
D20. Plumbing and Piping

D20. Plumbing and Piping

1) Requirements:

- a. Provide delivery of hot and cold domestic water to plumbing fixtures at points of utilization and provide for the removal of water, rainwater, and liquid waste.**
- b. The plumbing and piping system is comprised of the following:**
 - **Water Supply: Water sources and storage.**
 - **Plumbing Fixtures: All fixtures necessary for sanitation, occupancy, and use that are connected to water supply or drainage; not including water heating or conditioning equipment.**
 - **Domestic Water: All elements required to distribute water to fixtures, including piping and equipment for water cooling, heating and storage.**
 - **Sanitary Waste: All elements required for removal of sanitary waste, including piping, venting, discharge and disposal, and equipment.**
 - **Rain Water Drainage: All elements required for drainage of rain water from building areas in which it may accumulate and drainage of clear wastes from building services; not including gutters and downspouts or substructure drainage.**

2) Performance criteria:

a. General:

- i. **Hot Water Supply:** Provide a master thermostatic mixing valve which limits the hot water supply temperature to 110 deg F.
- ii. **Hot Water Access Time:** Provide a hot water system that will not exceed a maximum wait time of 15 seconds for hot water at restroom, break room and coffee station fixtures.
- iii. **Noise:** Design to prevent noise due to air trapped in piping systems.
 - **Air Removal:** Provide for removal of air trapped in water distribution system.
- iv. **Convenience:**
 - **Fixture Heights:** As specified in code.
 - **Fixture Configurations:** As specified in code.
 - **Water Connections:** Hot water on the left side of fixtures and cold water on the right side of fixtures.
- v. **Odors:**

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2. Systems Performance Guidelines
D20. Plumbing and Piping

- Do not locate sanitary waste vent openings where odors are noticeable by occupants or by occupants of adjacent properties or where odor-bearing air may enter building spaces.
- Connect fixtures in a manner that prevents entry of sewer gases into occupied spaces.
- vi. Potable water: Provide potable water from the public utility water system.
- vii. Waste Disposal: Connect each fixture to sanitary drainage system for proper disposal of waste and harmful materials.
- viii. Pressure Control: Control pressures to protect the building, fixtures, equipment, and occupants from harm.
 - Maximum Water Distribution Working Pressure: 60 psi.
 - Pressure Reduction: Use pressure reducing valves or regulators when incoming water pressure exceeds 60 psi.
- ix. Prevention of Sewer Gas Leaks:
 - Provide waste system vents as required by code to avoid trap siphonage or compression.
 - Prevent entry of sewer gases from the sanitary sewer into building's sewer system.
- x. Protection of Potable Water Supply: As required by code.
 - Separate water systems into potable and non-potable by installing backflow preventers.
- xi. Waste Drainage: Provide floor funnel drains, air conditioning equipment and water coolers with indirect waste pipe for drainage as required by code.
- xii. Burn Hazards: Maximum fixture discharge temperature: 110 deg F
- xiii. Fire Hazards: Do not use combustible piping materials inside the building.
- xiv. Hazard Labeling: Clearly label domestic hot water, domestic cold water, rain water drainage, and sanitary waste and vent systems indicating the nature of contents and direction of flow.
- xv. Hazardous Material Drainage: Prevent damage to public utility drainage systems by removing or neutralizing hazardous materials before discharging.
- xvi. Insulated Pipes: Prevent compression of insulation by using pipe shields or saddles or dense insulation inserts.

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2. Systems Performance Guidelines
D20. Plumbing and Piping

- xvii. Electrical Component Protection: Do not route piping through electrical rooms, switchgear rooms, transformer vaults, and elevator equipment rooms unless it is absolutely necessary and permitted by code.
 - Where piping must be routed near electrical equipment, shield the electrical equipment with drip pans which drain to the nearest floor drain.
- xviii. Equipment Protection:
 - Domestic Water Distribution System: Provide a filtration device upstream of equipment which may be damaged by debris in the distribution system.
- xix. Maximum Discharge Temperature into Sewer: 120 degrees F.
- xx. Capacity of Water Service: Provide adequate water flow and pressure to supply peak demand requirements. Comply with code requirements.
 - Water Delivery: If the water source has insufficient flow or pressure, provide booster pumps or other means of increasing to required level.
 - Water Flow: Maximum Velocity: 8 fps at the design flow rate.
 - Water Supply Pressures:
 - Water Distribution Working Pressure: 60 psi at 75 deg F.
- xxi. Waste Pipe Sizing:
 - Size piping as required by code.
 - Building Drain: 4 inches diameter, minimum.
 - Buried Piping Below Slabs: 4 inches diameter, minimum.
 - Pipes 4 inches in Diameter and Smaller: Sloped at 1/4 inch per foot, minimum.
 - Pipes 6 inches in Diameter and Larger: Sloped at 1/8 inch per foot, minimum.
- xxii. Rain Water Drainage Capacity: Provide as required in the code and as follows:
 - Design Rainfall Rate: Short storm intensity of 1 inch in any 1 hour period.
 - Secondary Drainage: Where required by code, provide secondary roof drains connected to a secondary drainage system.
- xxiii. Do not use: Plastic piping of any type without State's prior approval.

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2. Systems Performance Guidelines
D20. Plumbing and Piping

xxiv. Ease of Maintenance and Repair:

- Provide devices at service entrance into the building and at non-potable main lines which allow insertion of measurement devices to monitor flow and pressure levels in the water distribution system.
- Isolation of Piping Segments and Equipment: Provide a means of isolating the following:
 - Each building from main water service. Provide a shut-off valve located inside a valve box whose removable access cover is at grade level.
 - Water meter from building piping.
 - Each tenant space from building service, excluding locations where there is only one fixture with its own isolation valves.
 - Each water branch from main service.
 - Each vertical riser from piping below.
 - Each water branch to fixtures or equipment from main vertical riser.
 - Piping lower than the supply, to prevent unnecessary draining in the case of disconnection.
 - Each plumbing fixture, storage tank, and item of equipment, so that removal of one will not necessitate shutdown of others.
 - Individual fixtures and equipment. Provide an isolation device within 3 feet of pipe connection to item.
- Provide for Drainage of Water Distribution Piping:
 - Slope Piping Toward Drain: 1/4 inch per 10 feet.
 - Provide a system drain at the lowest point in the system.
 - Provide an adequately sized drain for the volume of water inside the distribution system.
 - Drain valve (or fixture shut-off valve) located at each low point.
- Provide for Cleaning of Drainage Piping: Provide a cleanout as required by code and as follows:
 - At the upstream end of each horizontal sanitary drainage pipe, for cleaning in direction of flow.
 - At the dead end of each dead-end pipe.

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D20. Plumbing and Piping

- Pipe 3 inches and Smaller: At intervals of 50 foot, maximum.
- Pipe 4 inches to 6 inches: At intervals of 80 foot, maximum.
- Pipe 8 inches and Larger: At intervals of 100 foot, maximum.
- Clearance: As required by code to allow for cleaning and rodding of pipe.

xxv. Health: Maintain the safety of the potable water source at all times.

- Do not connect the potable water source to any non-potable water source.
- Keep animals and vermin out of open pipes, tanks, and other system components.
- Keep other contaminants out of the distribution systems, equipment, and water source.

b. Water supply: Provide water supply necessary for building occupancy and use.

- i. Capacity: Size the water supply to exceed code by 10 percent.
- ii. Fire Prevention: Provide water supply for fire sprinkler system and standpipes in NFPA 13, NFPA 14 and the fire code.
- iii. Disease Prevention: Provide potable water supply with backflow preventers in accordance with code. Provide filtration to remove pollutants.
- iv. Expected Service Life Span: 30 years.
- v. Wear Resistance: Provide shutoff valves that are resistant to corrosion, breakage, and scratching due to continual contact with water, human usage, and cleaning with abrasive materials.
- vi. Freeze Protection: Protect piping from freezing with heat tracing or by installing piping inside building insulation.
- vii. Water Pressure: Provide 60 psi, minimum, except as otherwise required by code.
- viii. Ease of Service: Provide a shutoff valve at the utility service main and the service entry point.
- ix. Ease of Repair: Do not locate underground piping beneath electrical service, equipment, or footings. Install pipe crossing footings in cast iron sleeves.
- x. Water Pipe: Use one or more of the following:

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- Ductile iron.
- Copper.

xi. Do not use:

- Galvanized steel.
- Polybutylene (PB)
- Polyethylene (PE).
- Polyvinyl chloride (PVC).
- Acrylonitrile butadiene styrene (ABS).

c. Plumbing Fixtures: Provide plumbing fixtures necessary for occupancy, use, and sanitation, including:

- ✓ Lavatories: At public and private restrooms and bathrooms.
 - Group lavatories may be used wherever 4 or more lavatories would be required in a single room; 18 inches of group lavatory perimeter qualifies as a substitute for one lavatory.
- ✓ Kitchen/Coffee Bar Sinks:
 - Double compartment; in accordance with the Space Needs Program.
 - Single compartment: At coffee bars and in accordance with the Space Needs Program.
- ✓ Utility Sinks: One in each janitor's closet.
- ✓ Showers: One in each shower compartment.
- ✓ Drinking Fountains: Minimum of one on each floor and within 10 feet of each restroom.
- ✓ Utility Water Supply: Located as required in Maintenance Shop Facilities in accordance with the Space Needs Program.
- ✓ Outdoor Hose Bibbs: Not more than 50 feet apart on building facade and one on each facade of building.

i. Convenience:

- Provide comfortable space between and around fixtures.
- Faucets: Single action operation or touchless, except in janitor closets.

ii. Appearance:

- Smooth, corrosion-resistant, non-absorbent, with no crevices to collect dirt.

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D20. Plumbing and Piping

- Aesthetically pleasing and easy and comfortable to use.
- Color: White, except where metal fixtures are required.
- iii. Burning Hazard: Protect wheelchair occupants from hot water pipes and drains.
- iv. Disease and Infection:
 - No overflow outlets in lavatories, sinks, or tubs.
 - All openings and edges around the sides and bottom of each fixture permanently sealed with waterproof material.
- v. Anchorage:
 - Anchor fixtures to support weight of fixtures and a minimum of 400 pounds without failure or stress on the connecting pipes.
 - Wall Mounted Fixtures: Carriers concealed inside fixture and in wall or floor.
- vi. Expected Service Life Span of Faucet Valves: 20 years.
- vii. Expected Service Life Span of Flushing Mechanisms: 20 years.
- viii. Wear Resistance: Provide fixtures, trim and accessories that are resistant to corrosion, breakage, scratching, burning, fading and chipping due to continual contact with water, human usage, and cleaning with abrasive materials.
- ix. Fixture Requirements:
 - Lavatories: Standard spout, single lever or touchless, with integral overflow.
 - Urinals: Siphon jet flushing action.
 - Waterless urinals are not acceptable and are not permitted by local code authorities.
 - Provide porcelain fixtures; plastic fixtures not allowed.
 - Water closets: Elongated wall mount, flush valve, solid plastic seat. Flush tank toilets are not acceptable.
 - Showers: With single-action hot-cold mixing valve.
 - Kitchen Sinks: Swivel spout, hot water dispenser and garbage disposal.
 - Drinking Fountains: With ADA hand operation dual level, chilled water service.
 - Utility (Mop or Janitor's) Sinks: Floor mounted sink capable of filling of standard rolling mop bucket required; spout designed to support full bucket of water.

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D20. Plumbing and Piping

- x. Water Pressure and Flow at Fixtures: 8 psi, minimum, except as otherwise required by code and as follows:
 - Showers: 20 psi, minimum.
 - Flush Valves at Water Closets and Urinals: 15 psi, minimum.
- xi. Water Consumption:
 - Water Closets: 1.6 gallons per flush, maximum, with complete waste removal in one flush.
 - Urinals: 1.0 gallon per flush, maximum, with complete waste removal in one flush. Waterless urinals are not acceptable.
 - Lavatory Faucets in Public Restrooms: 0.25 gallon per use.
 - Shower Heads: 2.5 gallons per minute, maximum.
 - Drinking Fountains: 9 gallons per hour.
- xii. Ease of Cleaning:
 - Use wall-mounted fixtures in public restrooms, for ease of cleaning floors.
 - Provide adequate access for cleaning each fixture and the areas around it.
- xiii. Ease of Repair:
 - Provide faucet valves easily removable and replaceable as a single unit.
 - Provide each pipe connection to fixture provided with a stop valve, for easy disconnection from water service.
 - Provide access to all concealed connections, such as floor and wall cleanouts and slip-joint connections.
- xiv. Do not use: Battery-powered electrically-powered fixtures:
- d. Domestic Water:** Provide hot and cold and hot circulating domestic water to plumbing fixtures as required, including:
 - ✓ Water Distribution: Piping within the building, serving fixtures and equipment.
 - ✓ Plumbing Equipment: Pumps, tanks, filters, and treatment equipment.
 - ✓ Utility water supply fittings (hose bibs, wall hydrants).
- i. Location:
 - Locate water heaters in utility rooms or in mechanical penthouse.

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D20. Plumbing and Piping

- Do not locate water heaters above ceilings, inside cabinets, or where the public has access to them.
 - Exception: When coffee bars are remotely located, small, local water heaters may be located in coffee bar cabinets.
- ii. Water Conditioning: Provide water supply with conditioning equipment to remove odors and hardness.
- iii. Noise:
 - Design to prevent noise due to water hammer.
 - Provide water hammer arrestors as shown on drawings to eliminate noise produced by the domestic water fixtures.
- iv. Excess Pressure Hazard: Include devices to reduce accidental excess pressure to acceptable levels, with maximum overpressure of 10 percent over specified system operating pressure, for the following items:
 - Water heaters.
 - Hot water storage tanks.
 - Booster pumps.
 - Hot water recirculating pumps.
- v. Moisture: Do not locate water heaters where leakage would cause damage to surrounding building materials unless drip pans are piped to floor drains.
- vi. Condensation: Provide insulation on cold water pipes, fittings, valves, and equipment to limit condensation.
- vii. Temperature Changes: Provide method of allowing thermal expansion of domestic water in the hot water system.
 - Provide expansion tanks with bladders.
- viii. Pressure Classification: Provide pipe, pipe components, and equipment with a pressure classification of 175 psi.
- ix. Energy Efficiency:
 - Heat Loss: Provide recirculating pumps to limit the domestic hot water temperature drop to 2 degrees F within 100 feet of fixtures requiring domestic hot water.
 - Equipment Heat Loss: Provide insulation on storage tanks that are not factory insulated to limit domestic hot water heat loss to maximum of 2 deg F per hour, without energy input.
- x. Method of Removing Air: Provide automatic or manual air vents.

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- xi. Water Heating Method: Provide gas fired or electrical water heaters.
- xii. Equipment Isolation: Provide valves on both supply and discharge sides of equipment.
- xiii. Water Piping, Buried: Use one of the following:
 - Copper pipe (ASTM B 42-2002(E03) with brazed or soldered cast copper or wrought copper or bronze fittings, or flared cast bronze fittings.
 - Ductile iron water pipe, cement lined, with ductile iron or gray iron fittings and gasketed joints.
 - Water Piping, Not Buried: Use copper tube, Type L, cast copper, wrought copper, or bronze fittings, and soldered joints.
- xiv. Insulating Materials: Use one of the following:
 - Mineral fiber.
 - Cellular glass.
 - Fiberglass.
- xv. Valves For Shut-Off or Isolation of Equipment, Fixtures, and Parts of Systems: Use one of the following:
 - Ball valves.
 - Gate valves.
 - Butterfly valves (limited to 6" pipe or larger).
- xvi. Valves For Flow Control, Throttling, or Bypass: Use one of the following:
 - Ball valves.
 - Butterfly valves (limited to 6" pipe or larger).
 - Globe valves.
- e. **Sanitary Waste:** Provide drainage for disposal of waste as required by the code and for the following:
 - ✓ Emergency Drainage: Floor drains located in spaces where waterproof membrane is installed under floor finish.
 - ✓ Cleaning Drainage: Floor drains located in public toilet rooms and as indicated in Space Needs Program.
 - ✓ Indirect Drainage: Floor drains that receive piping from:
 - Equipment drain pans.
 - Condensate drains.
 - Other equipment that produces clear wastes.

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- Other equipment specified to have indirect drains.
- i. Convenience: Do not locate floor drains and floor cleanouts in doorways or directly in traffic paths.
- ii. Odors:
 - Do not terminate vents within 10 feet horizontally of doors, windows, air intake or exhaust openings, or other openings in the exterior enclosure, unless vent termination is at least 3 feet above the top of the opening.
 - Do not locate vent openings under overhangs.
 - Do not locate vent openings closer than 10 feet to lot line.
 - Extend vent pipes at least 6 inches above the surface of roofs.
 - Exception: Where roof areas are to be occupied for normal building functions, extend vent pipes at least 7 feet above the roof surface.
 - Extend vent pipes at least 12 inches above overflow level of the highest fixture served by the vent.
 - Provide an automatic means of priming traps on all floor drains.
- iii. Flammable or Toxic Wastes: Provide means of safely disposing of gasoline, diesel fuel, oil, anti-freeze (glycol solution), and other flammable or toxic wastes generated by the Maintenance Shop Facilities.
- iv. Disease and Infection:
 - Do not locate indirect drains in toilet rooms, unventilated or inaccessible rooms, or in air distribution or return plenums.
- v. Hub-and-Spigot Joint Support: Support joints so they do not separate under weight of pipe or live loads.
- vi. Corrosion Resistance:
 - Where corrosive wastes can be neutralized or diluted below harmful levels, removal is not required; otherwise, provide appropriate interceptors to remove corrosive wastes, including solids.
 - Sand-Oil Interceptors: Provide as indicated in the Space Needs Program and all floor drains in the Maintenance Shop Facility.
 - Sediment Interceptors: Locate at each floor drain where significant amount of sand is likely to be tracked in by occupants, vehicles, or blown in by wind.
- vii. Condensation:

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- Prevent condensation from forming on or dripping from sanitary drain piping, floor drain bodies, drinking fountain or water cooler waste piping, condensate piping, p-traps, and roof drain bodies and horizontal rainwater leaders.
- viii. Maintenance of Drainage:
 - Where sewer discharge is higher than item to be drained, provide a means of lifting the waste for drainage.
 - Fittings, Joints, and Offsets: Provide as required to ensure optimal flow through horizontal and vertical piping and at changes of direction.
 - Transitions Between Horizontal Piping and Vertical Risers:
 - Sanitary Waste: Provide sanitary tees, wyes, or wyes and eighth bends.
 - Vents: Provide wyes, wyes and eighth bends, and short radius fittings.
- ix. Ease of Cleaning:
 - Floor Drains: Provide at low points in floor and flush with finish floor surface.
 - Cleanout Plugs: Install flush with floor or wall surface.
 - Drain equipment which produces or collects clear waste, such as condensation from cooling coils. Provide piping for the clear waste to the nearest floor drain.
 - Indirect Waste Pipes over 1 inch Diameter: Provide a means to catch and remove solid materials 1/2 inch and larger, such as a strainer.
 - Oil Interceptors: Locate for ease of use.
- x. Minimization of Cleaning:
 - Sand/Oil Interceptors: Locate at each floor drain serving the vehicle bays in the Maintenance Shop Facility.
- xi. Ease of Maintenance:
 - Interceptors That Must be Manually Cleaned: Locate close to or in the same area as drains that receive the harmful wastes, for supervision and maintenance by occupants creating the waste.
- xii. Sanitary Waste and Vent Piping, Buried: Use cast iron pipe and fittings, hub-and-spigot, with neoprene or lead/oakum joint seals.
- xiii. Sanitary Waste and Vent Piping, Not Buried: Use one or more of the following:

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- Cast iron pipe and fittings, hubless, with neoprene gaskets and stainless steel clamps.
 - Copper tubing (DWV), with cast bronze or wrought copper fittings and soldered joints.
- f. Rain Water Drainage:** Provide drainage for disposal of rain water and clear wastes, as required by the code.
- i. Condensation: Insulate horizontal and vertical rain water piping, including the underbody of roof drains, using material of sufficient insulating value to prevent condensation within interior spaces.
 - ii. Vermin Resistance: Provide grated coverings for drains to prevent entry of rodents, insects and birds.
 - iii. Ponding Prevention :
 - Locate drains to avoid prevent loads in excess of structural capacity.
 - Prevent inadvertent ponding by protecting drain openings from clogging, using raised strainers with minimum height of 4 inches wherever possible and flat gratings in all other locations.
 - iv. Water Penetration: Reinforce weather barrier around drains using extremely durable, permanently watertight material:
 - An acceptable method is using 4 pound sheet lead, extending minimum of 10 inches from center of drain.
 - v. Protect Drainage from Abuse: Protect drainage conductors and leaders by placing in dedicated locations and by recessing in walls and exposed locations.
 - vi. Maintenance of Drainage: Slope pipes at 1/8 inch per foot, minimum.
 - vii. Rain Water Piping, Not Buried: Use cast iron pipe, hubless, with neoprene gaskets and stainless steel clamps.
 - viii. Rain Water Piping, Buried: Use cast iron pipe, hub and spigot, with neoprene or lead/oakum joint seals.
- g. Maintenance Shops Facilities:** Comply with the additional performance criteria or exceptions below:
- i. Maintenance Shops Building Plumbing:**
 - Domestic Cold Water - Domestic cold water should be distributed to all plumbing fixtures located throughout the building.
 - Domestic Hot Water - A gas fired domestic hot water heater should be provided to supply all the domestic hot water requirements of the building. The combustion air make-up vents should be provided for the mechanical room. A hot water

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circulation pump should be provided to minimize the waiting time for hot water to reach the point of use fixture.

- Sanitary Sewer - Sanitary sewer should exit the building and connect to the treatment system or City of Lacey system.
- Storm Water Drainage - The storm drainage system should be determined by the roof system designed by the Proposer.
- Natural Gas - Natural gas pipeline should supply natural gas to the heating hot water boiler and domestic hot water heater and other shop equipment located in the Lab and Shop areas.
- Oil/Water Separator - A below ground oil/water separator should be provided to collect waste water from the trench drains and sediment drains in the Equipment Shop and Materials Lab.
- Water Closets - Water Closets provided at all restrooms should be wall-hung type with flush valve for ease of cleaning. Wheelchair accessible water closets should be provided.
- Lavatories - Lavatories provided at all restrooms should be counter top mounted. Wheelchair accessible lavatories should be provided.
- Urinals - Urinals should be provided in all men's restrooms.
- Showers - Showers should be provided in the men's and women's Locker Rooms.
- Mop Sink - Mop sinks should be provided at all janitors' closets.
- Utility Sinks - Utility sinks should be provided in shop areas per the Design Criteria recommendations.
- Electric Water Coolers - Electric water coolers should be provided at each restroom area, locker rooms, and at other appropriate locations.
- Sinks - Double compartment sinks should be provided in the kitchenette areas.
- Trench Drains - Trench drains with removable cover to sediment and oil interceptor should be provided at each overhead door in the Equipment Shop.
- Bulk Fluid Reels - Bulk fluid lube reel bank with engine and vehicle fluids per the Space Needs Program should be provided between vehicle repair bays at the rear of the bay. Low pressure oil fluids should be dispensed from pneumatic pumps with electronic meters at a rate of 5 gpm at 2 simultaneous locations. Low pressure fluid piping should be run through seamless steel hydraulic tubing with 1,000 psi strength fittings. Chassis grease piping should be run through seamless steel hydraulic tubing with

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4,000 psi strength fittings. Bend tubing at change in directions and ninety degree fittings should only be used where tubing cannot be bent.

- Hose Bibs - Hose bibs should be provided near columns between bays at the rear of the bay.
- Compressed Air - Compressed air system with minimum pressure of 150 psig should be provided with duplex air compressor, receiver tank, duplex air cooled after coolers, and refrigerated air dryer. Compressed air distribution piping system should be provided for each shop building. Compressed air drops with quick disconnects should be provided on air/electric trapeze, between bays at the mid point and at the rear of the bay. Compressed air outlets should be provided between each set of doors. Compressed air should be provided to all shop equipment as required per each shop location in the Design Criteria. All compressed air drops should be provided with shut off valves, separator, regulator with gauge, lubricator and quick disconnect.
- Bulk Fluid Storage - New coolant and oil storage should be provided double wall above ground storage tanks in the Lube/Compressor Room. Tank size should be determined per the Space Needs Program. The tanks should be accessible on all sides for inspection and should be provided with secondary containment to contain 110% of the largest tank.
- Waste Fluid System - Waste fluids should be pumped from diaphragm transfer pumps in the vehicle repair bays at a minimum 40 gpm to double wall above ground storage tanks located in the Lube/Compressor Room. Provide for automatic shutdown of pump(s) upon over-level alarm on storage tanks.

ii. Fuel Island Fuel Dispensing:

- Two unleaded/diesel fuel dispensers should be provided between the two fueling lanes. A fuel management system should be provided at the fueling area to monitor use of fuel.
- Diesel fuel should be supplied from 10,000-gallon above ground storage tanks. A submersible pump should be provided from the tanks to each dispenser. Containment should be provided to contain the total 10,000 gallons of diesel fuel.
- Unleaded fuel should be supplied from 10,000-gallon above ground storage tanks. A submersible pump should be provided from the tanks to each dispenser. Containment should be provided to contain the total 10,000 gallons of unleaded fuel. Vapor recovery should be provided.

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iii. Covered Buildings:

- Hose bibs - Frost-proof hose bib hydrants should be provided at columns for wash down.

3) Verification, evaluation and testing:

- a. Water source:** In proposal, provide documentation of water supply source and flow conditions.
- b. Waste system:** In proposal, indicate sewer discharge method and locations.

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D30. HVAC: Heating, Ventilating And Air Conditioning

D30. HVAC: Heating, Ventilating and Air Conditioning

1) Requirements:

- a. **Provide all elements necessary to provide a satisfactory installation of heating, ventilating and air conditioning systems; including means of controlling temperature, relative humidity, velocity, and direction of air motion in the interior spaces enclosed by the shell, and reduction of airborne odors, particulates, and contaminant gases.**
- b. **HVAC Systems include the following:**
 - **Primary heating system:** including components and accessories.
 - **Primary cooling system:** including components and accessories.
 - **Hot and chilled water mains:** extending the length of each floor of the office complex.
 - **Central air handling:** including supply, with components, accessories and controls.
 - **Supply duct mains:** extending the length of each floor of the office complex.
 - **General exhaust systems:**
 - **Central energy management and control system:** with sufficient capacity to incorporate tenant improvement requirements.
 - **Unit heating and cooling:** as appropriate for shop maintenance facilities.

2) Performance criteria:

- a. **Design criteria:** Design HVAC systems to meet the needs of Section V, Space Needs Program and to obtain LEED “Silver” certification rating.
- b. **Space Temperature Set Points:** As required in Section V, Space Needs Program.
- c. **Indoor Air Quality:** Provide sufficient ventilation to obtain acceptable indoor quality.
 - i. **Minimum Outside Air:** Provide a minimum level of outside air adequate to provide 20 cfm per person in occupied spaces.
 - ii. See Section V, Space Planning Needs, for minimum ventilation and minimum air change rates for typical rooms and spaces.
- d. **Heating system:** provide the necessary equipment and infrastructure to deliver heat to the condition spaces.
 - i. **Safety:** Provide boilers and furnaces which safeguard people, property and equipment from the potential hazards such as exposure to open flames or two hot surfaces.

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- ii. Seismic design: Comply with SMACNA “Seismic Restraint Manual Guidelines for Mechanical Systems”.
- iii. Temperature endurance: Provide equipment designed for ambient temperatures ranging from 0 degrees F to 122 degrees F.
- iv. Chimneys and flues: Provide flues designed for flue gas temperature of 400 degrees F.
- v. Ease of Use: Design access to and working clearances around heating equipment as recommended by the manufacturer.
- vi. Electrical Resistance Heating: Avoid use of resistance heating except for isolated circumstances where other alternatives would be prohibitively expensive even when considering live cycle costs.
- vii. Boilers:
 - Boiler Design: Design boilers to conform to construction standards of ASME Boiler and Pressure Vessel Code, Sections I and IV (as applicable), Rules for Construction of Heating Boilers.
 - Boiler Operating Maximum Water Pressure and Temperature: 40 psig at 180 degrees F.
 - Consider use of high efficiency condensing boilers.
 - Use one or more of the following:
 - Heating using hot water.
 - Equipment fueled by natural gas.
 - Fin tube boilers.
- e. **Refrigeration:** Provide the necessary equipment to generate the cooling required to maintain building comfort.
 - i. Safety:
 - Construct condensing units to ASHRAE 15-2001, Safety Code for Mechanical Refrigeration. Construct chiller pressure vessels to comply with ASME Boiler and Pressure Vessel Code, Section VIII, Pressure Vessels, including both coolers and condensers.
 - Cooling towers: Provide safe access to all parts that must be serviced, including railings at edges of platforms and cages on ladders.
 - Where maintenance personnel could be exposed to chemicals during routine maintenance and repair, furnish all personal safety equipment and clothing necessary for adequate protection.
 - ii. Seismic design: Comply with SMACNA “Seismic Restraint Manual Guidelines for Mechanical Systems”.

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- iii. Refrigerants: Comply with the requirements of ASHRAE 15-2001.
 - Do not use R –22 refrigerant.
 - Prevent release of refrigerant to atmosphere.
 - Prevent exposure of occupants to hazardous refrigerants.
- iv. Temperature Endurance: Provide equipment designed for temperatures ranging from 0 degrees F to 122 degrees F.
- v. Design criteria: design in accordance with Space Needs Program and to meet LEED “Silver” rating.
 - Energy Efficiency: Minimum in accordance to code.
 - Discuss rebate potential with utilities for efficiencies exceeding code.
- f. **Air Distribution System:** Distribute air to maintain the required space conditions.
 - i. Safety:
 - Exterior air intakes: Locate air intakes well above grade with sloped or vertical protective grills to prevent intentional, malicious contamination of intake air from smoke bombs, etc). Ensure there is adequate separation between air exhaust systems and air intakes to prevent contamination.
 - Bacterial growth: Provide humidifiers which do not promote the growth of microorganisms.
 - Electrical shock prevention: Provide a disconnect switch at each electrically powered element.
 - Fire sources: Provide air distribution elements constructed from non combustible materials.
 - Fire spread: Provide interlocks to prevent operation or start-up of air distribution elements when fire or smoke detection systems are in alarm condition.
 - ii. Seismic design: Comply with SMACNA “Seismic Restraint Manual Guidelines for Mechanical Systems”.
 - iii. Space Temperature Control: Coordination of air distribution system's design and installation with zoning and space temperature requirements discussed in HVAC Controls below and comply with ANSI/ASHRAE Standard 55.
 - iv. Humidity Control:
 - Provide humidification equipment in computer rooms.

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- Maintain relative humidity between 48 and 52 percent in computer rooms.

v. Air Movement:

- Provide an air distribution system that limits the air velocity on the building occupants to 50 fpm, maximum, when measured at 4'-6" from floor.
- Adjustments: Provide an air distribution system which allows relocating supply diffusers, adjusting direction of airflow from supply diffusers, adjusting dampers, and changing the thermostat setpoint.

vi. Acoustical Performance:

- Air Distribution Background Noise: Provide systems which comply with the acoustical requirements of Section VI-2.C, *Interiors*.

vii. Filtration: Provide filtration of the air distributed to the occupied spaces using filters rated at 90% efficiency.

viii. Odor:

- Provide exhaust to remove odors.
 - Toilet Room Exhaust: 2 cfm per sq. ft..
 - Janitors Closet Exhaust: 2 cfm per sq. ft..
 - Locker Room Exhaust: 10 air changes per hour.
- Provide charcoal filtering system whenever odor control is required.

ix. Appearance:

- Diffuser shape: Provide square, round, rectangular, or linear diffusers.
- Diffuser face: Provide perforated, louvered, or dropped face diffusers.
- Linear diffusers: Provide single or two slot linear diffusers.
- Diffuser color: Avoid introducing new colors into a space; provide diffusers that match ceiling color, ceiling contrasting color, that are off-white, or that match door hardware finish.

x. Capacity: Provide air distribution in accordance with Space Needs Program and calculations, plus 10%.

xi. Duct Construction: In accordance with SMACNA HVAC Duct Construction Standards based on the following:

- Select a rating that will avoid damage to ductwork in event of sudden smoke/fire damper closure during fan operation.

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- Duct Pressure Class: Use 6 inches w.g. for ducts between supply fan and the terminal boxes. All other duct applications: use 2 inches w.g. downstream of terminal boxes.

xii. Do not use:

- Fibrous glass ductboard.
- Interior duct insulation; except for purpose of sound attenuation when approved by the State for each specific length, type and location.

g. Hydronic Distribution System: Distribute heating water and cooling water to maintain the required space conditions. Systems include low temperature water system, medium pressure water system, high temperature water system, chilled water system, low temperature water system and chilled water system.

i. Safety:

- Accidental Explosion: Provide pressure relief valves to prevent over pressurizing the systems.

ii. Seismic design: Comply with SMACNA “Seismic Restraint Manual Guidelines for Mechanical Systems”.

iii. Configuration - All Systems: Provide reverse return or direct return with pressure independent valves.

iv. Pipe Stress and Strain Control: Provide pipe loops, bends, expansion joints, flexible pipe connectors, and seismic expansion joints to reduce stress and strain due to expansion and contraction.

v. Corrosion Control: Drain condensate from cooling coils to prevent corrosion of associated equipment.

vi. Operating Parameters:

- Building Systems:
 - Heating Water System Pressure: 125 psig, maximum.
 - Chilled Water System Pressure: 125 psig, maximum.
 - Water Velocity: 5 feet per second, maximum.
- Pumps: Match pump pressure and flow characteristics with the pressure and flow characteristics of the distribution system.
- Control valves: Locate within 2 feet of devices they control.

vii. Condensate Piping: Type L drawn temper copper tubing with soldered joints and DWV fittings.

viii. Chilled Water Distribution Piping:

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- 2-inch NPS and smaller: Above ground – Type L drawn-temper copper tubing with soldered joints.
- 2-inch NPS and smaller: Below ground and within slabs: Type K annealed-temper copper tubing with soldered joints.
- 2-1/2 inch NPS and larger: Black steel Schedule 40 pipe with welded joints. Flanged joints at equipment connections and where pipe removal for equipment access is required.

ix. Heating Water Distribution Piping:

- 2-inch NPS and smaller: Aboveground – Type L drawn-temper copper tubing with soldered joints.
- 2-inch NPS and smaller: Below ground and within slabs: Type K annealed-temper copper tubing with soldered joints.
- 2-1/2 inch NPS and larger: Black steel Schedule 40 pipe with welded joints. Flanged joints at equipment connections and where pipe removal for equipment access is required.

h. HVAC Controls: Provide the elements necessary to control the building's indoor environment.

- i. Provide a LonWorks based direct digital control (DDC) system which controls the indoor environment, manages energy consumption, schedules preventative maintenance, controls interior lighting, controls exterior lighting, integrates fire alarm and security functions, monitors fuel consumption, monitors water usage, and monitors packaged equipment controls.
- ii. Provide a thermostat for each zone to maintain the required space conditions.
- iii. Provide monitoring and control of major pieces of HVAC equipment.

iv. Zoning and Space Temperature Control:

- Provide dedicated terminal unit and thermostat for each corner space. The end
- Provide single thermostat and terminal unit for spaces with similar function, exposure, and location.
 - Zone interior spaces together, separate from exterior spaces.
 - Zone exterior spaces together, separate from interior spaces.
- Maximum Interior Zone Size: 750 square feet.
- Maximum Exterior Zone Size: 400 square feet.

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- Maximum Open office Zone: 1250 square feet.
- Zone each conference room, training room, meeting room, board room, lobby, and common area, separately. Dedicate at least one terminal unit and thermostat to each zone.
- Provide computer room with a dedicated zone. Provide humidity and temperature control.
- v. Humidity Control: Provide monitoring and control of humidification equipment in computer rooms.
- vi. Building Control System: Provide a central location to monitor and control each zone setpoint.
 - Equipment Location: Do not locate central HVAC control equipment in MDF Room or IDF Rooms.
- vii. Life Safety: Provide interconnection and coordination of HVAC controls with other life safety systems.
- viii. System Capacity: Provide a building control system with sensors and points to perform as required, plus 10 % expansion.
- ix. Staff Training: Provide a minimum of 40 hours staff training conducted by the HVAC control system factory authorized trainers.
- x. Spare parts: Provide two spare devices to every type of control device installed, including controller valves one inch and smaller, sensors, and thermostats.
- i. **Use of Permanent Systems During Construction for Maintaining Proper Conditions Within Building:** After the permanent heating system is sufficiently installed, it may be used in lieu of the temporary equipment upon concurrence of the State and in conformance with the following requirements for said use:
 - i. The responsibility for the heating system and its full operation remains with the Design-Builder until final acceptance of the building.
 - ii. Provide air filters on any building fan equipment used for temporary heat.
 - iii. Return air dampers to be closed; unit to run with 100% outside air.
 - iv. Filters for any heating or air handling equipment, or similar equipment operated during construction, will be replaced by the Design-Builder before State occupies the space at no additional cost to State.
 - v. Re-lubricate all equipment used.

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- vi. All testing, balancing and filter changes, etc., noted in mechanical specifications are still required in addition to any cleaning, changing of filters, etc., performed during temporary operations.
 - vii. Design-Builder will clean inside of ducts by power vacuuming should the ducts be determined to be excessively dirty.
 - viii. Pay all costs until final acceptance. Should State occupy part of facilities during construction, utility costs will be apportioned upon agreed unit costs.
 - ix. All heating system equipment warranties will commence at Final Completion, regardless of when put into operation.
- j. Maintenance Shops Facilities:** Comply with the additional performance criteria or exceptions below:
- i. Maintenance Shops Buildings HVAC:**
 - Office Areas - The office areas, lockers and restrooms should be air conditioned.
 - Vehicle Repair Bays - The recommended heating system should be flameless catalytic gas fired radiant heaters. This system should heat objects and not the air continuously moving through the general exhaust system. An option could be an in-floor hydronic heating system. Reverse in-flow preferred.
 - Vehicle Exhaust - An overhead vehicle exhaust system with 6-inch or 4-inch flexible hose connectors mounted on a motorized reel with integral exhaust fan and automatic fan switch at the end of each bay should be provided. Exhaust should be ducted directly through the roof. Approximate size: 400 cfm ea., 2.0 in. w.c. static pressure, 1 hp fan motor.
 - General Exhaust - General exhaust air ventilation should be provided to prevent the accumulation of vehicle exhaust fumes from vehicles being serviced. Louvers should be provided in the exterior walls with automatic dampers mounted directly behind. The general exhaust system should provide exhaust for the Portable Equipment Storage, Tool Box Storage, and Common Work Area.
 - Carpentry Shops - Dust collection with rigid ducting sized to accommodate the specific equipment exhaust port should be provided to each piece of woodworking equipment identified in the Space Needs Program.

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- **Materials Lab** - Dust collection with rigid ducting and hood directly sized to accommodate the specific equipment should be provided to the shaker equipment identified in the Space Needs Program.
 - **TEF Fabrication Shop** - The Fabrication Shop should be provided with an exhaust fan to remove residue smoke from the welding tables that is not captured in the table hood and ducted through the electrostatic filters. The exhaust system should provide exhaust for the Bridge Shop and Fabrication Areas.
 - **Lube/Compressor Room** - The Lube/Compressor Room should be air conditioned. The room temperature should be maintained between 60° and 80° F. An exhaust fan should be provided.
- ii. **Covered Buildings:** No ventilation will be provided for the canopy. The canopy roof should be a perforated type which will allow for the free movement of air.

3) Verification, evaluation and testing:

- a. **HVAC LEED “Silver” Strategy:** In proposal, identify methods and components used to obtain LEED “Silver” certification rating.
- b. **Energy Use and Cost:** In proposal, provide expected annual energy use and cost and life cycle cost estimates including estimated maintenance and replacement costs.
- c. **Air Movement:** After occupancy, measure air movement at work stations in areas where two or more of the occupants are uncomfortable and adjust air distribution system to make occupants comfortable.
- d. **Energy efficiency:** In proposal, provide EER for proposed HVAC equipment.
- e. **HVAC control:** In proposal, identify areas/zones requiring special HVAC and controls.

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D40. Fire Protection

D40. Fire Protection

1) Requirements:

- a. Provide fire protection systems to protect life and property.**
- b. Fire protection comprises the following elements:**
 - **Fire Sprinkler and Extinguishing Systems:** Elements which automatically extinguish fires.
 - **Standpipe and Hose Systems:** Elements that deliver adequate supplies of water to locations in the building for manual fire-fighting.
 - **Fire Detection and Alarm:** Elements required to detect fires and communicate fire location to building occupants, building management, and public fire fighting agencies.
 - **Smoke Control Systems:** Elements required to control smoke in the event of a fire and to remove smoke after the fire is extinguished.
 - **Fire Protection Specialties:** Elements required for manual fire-fighting by occupants.

2) Performance criteria:

a. General:

- i. Provide automatic fire suppression for the entire Olympic Region Headquarters complex.
 - Sprinkler system in conformance with NFPA 13 and local Fire Code.
 - Standpipe system in conformance with NFPA 14 and local Fire Code.
- ii. Fire protection water supply:
 - Provide a permanent water supply for standpipes as required by code and Fire Marshal.
 - Provide a water supply to sprinkler systems that is sufficient to extinguish fires inside the structures.
- iii. Leakage: Provide systems that are leak-free.
- iv. Accessibility: Provide clearances around system components for service and use.
- v. Sound: Provide audible alarm system to signal building occupants of fire hazard.
- vi. Convenience: Provide an automatic system to fight the fire.

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D40. Fire Protection

- vii. Hazards: Provide systems which minimize risk of injury and damage to property.
 - viii. Path of Egress: Provide systems which safeguard path of egress.
 - ix. Fire Spread: Provide systems to limit spread of fire.
 - x. Smoke Control: Provide a system in accordance to code.
 - xi. Seismic Design: Provide support systems which sustain static (dead) loads in accordance with code.
 - Earthquake bracing: and fire marshal swivel type anchor. Foot-clamp and quick-end type bracing is not allowed.
 - xii. Corrosion Resistance: Use corrosion resistant materials.
 - xiii. Vandalism: Provide systems which are tamper-resistant.
 - xiv. Unauthorized Use: Provide systems which minimize activation and use by unauthorized persons.
 - xv. Ease of Use: Provide easy access to and working clearances around system components.
- b. Fire Sprinkler and Extinguishing Systems:** Provide fire sprinkler or fire extinguishing systems for all interior spaces including overhangs and garages.
- i. Provide design and construction in accordance with code and:
 - Fire Sprinklers: NFPA 13-2002.
 - Standpipes and Hoses: NFPA 14-2003.
 - Dry-Chemical Extinguishing Systems: NFPA 17-2002.
 - Low Expansion Foam Extinguishing Systems: NFPA 11-2005.
 - Foam Water Extinguishing Systems: NFPA 16-2003.
 - ii. Accessibility: Provide fire department connections, including standpoint connections, as required by code and Fire Marshal.
 - iii. Sprinkler Head Performance: Provide as required by code and NFPA 13-2002. Provide quick-response heads.
 - iv. Water Demand Requirements: Determine minimum water supply requirements for each sprinkler system using the hydraulic calculation method defined by NFPA 13-2002.
 - v. Spare Sprinkler Heads: Provide additional sprinkler heads as required by code to service the system.
- c. Standpipe and Hose Systems:**
- i. Standpipe Design and Installation: Provide a standpipe system as required by code and NFPA 14-2003.

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- d. Fire Detection and Alarm:** Provide a single, microprocessor-based, addressable, fully automatic smoke, fire detection and alarm system as required by code for all habitable or selected areas in both the administrative office building and the maintenance shop facilities.
 - i. Monitoring: Connect the protected premises system(s) to a UL central station for monitoring as required by the code and the Fire Marshal.
 - System will not be monitored by the State. The State will contract with the central monitoring station.
 - ii. Integrated Systems: Integrated systems performing all functions are preferred, subject to requirements of code for separated, independent systems.
 - iii. Detection, Alarm, Notification Methods: Provide in accordance with code and NFPA 72-2002. System must be addressable.
 - iv. Duct Detection: Provide as required in Mechanical Code.
 - v. Smoke Dampers: Connect all smoke dampers and provide duct detectors within 5 feet of dampers, or complete building area coverage, or as required by Fire Marshal.
 - vi. Alarms:
 - Manual stations: Provide as required by code.
 - Audible Alarms: Provide with minimum dB as required by code.
 - Visual alarms: Provide in locations required by codes.
 - vii. Fire Protection Controls:
 - Provide connections between alarm and detection system and fire suppression system activation sensors.
 - Upon Alarm: Shut down, recall, or deactivate the following:
 - HVAC air distribution.
 - Elevators (fire emergency service).
 - Fire-rated door hold-opens.
 - Locks restricting exit through doors constituting means of egress.
 - Smoke Dampers.
 - viii. Fire alarm control panel:
 - Provide a fire alarm control panel that is modular, addressable, programmable, and mounted in a cabinet or console.
 - Each module should contain an alarm and visual trouble indication for each input zone.

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- Provide the panel with backup power supply plus standby power battery packs.
- Annunciator at Main Desk: Provide audible and visual trouble notification via annunciator at main desk for alarm, trouble, backup power failure, and sprinkler activation.
- Remote annunciator: An audible and visual trouble repeater panel should be located near the main building entry and coordinated with the local fire marshal.
- ix. Error and Failure Prevention: Provide addressable system with supervised wiring; use products of only one manufacturer or certified by manufacturer as compatible.
- x. Power Supplies: Provide dedicated battery backup power in accordance with fire safety systems and backup minutes per code.
- xi. State Personnel Training: Provide the following training:
 - Operational: Minimum of 8 hours, for 1 person, for each separate system.
 - Maintenance: Minimum of 8 hours, for 1 person, for each separate system.
- xii. Equipment Location: Provide code approved enclosure. Do not locate equipment with MDF Rooms or IDF Rooms.
- xiii. Fire/Smoke Detectors: Provide as required by code or the Fire Marshal. Use one of the following:
 - Ionization smoke detectors.
 - Photoelectric smoke detectors.
 - Beam detectors.
 - Thermal detectors.
 - Rate compensated detectors.
- xiv. Sprinkler System Flow Switch: Actuation of any fire sprinkler system flow switch or automatic detector should cause an alarm condition.
- xv. Sprinkler supervisory stations: Provide local audible and visual alarm with silence switch.
- xvi. Warning Devices: Provide audio/visual combination signals that meet ADA requirements. Use one of the following:
- xvii. Communication Cabling: Provide as required by code.
- e. **Fire Protection Specialties:** Provide equipment and fixtures to facilitate manual fire-fighting in accordance with the code, including fire

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extinguishers, cabinets for storage, and combination extinguisher and hose cabinets.

- i. Provide portable fire extinguishers throughout the facility, of the type and size and in the locations required by NFPA 10-2002 and the code.
 - ii. Appearance: Extinguishers installed in wall-mounted brackets are not acceptable in appearance.
 - iii. Location: Locate extinguishers and cabinets so that means of egress is not impeded, in accordance with code.
 - iv. Mounting: Mount extinguishers in permanent locations using mounting fixtures that will inhibit casual removal but allow ready use in case of fire.
 - v. Expected Service Life Span: Same as life span of building.
 - vi. By-Products: Select extinguishing agent to minimize adverse effects of use on building equipment and finishes.
 - vii. Ease of Use: For extinguishers intended for the use of occupants other than trained fire brigade members, weight of extinguisher may not exceed 12 pounds.
 - viii. Ease of Relocation: Locate extinguishers and cabinets so that minor relocation of rooms and spaces normally expected during occupancy do not result in violation of the location requirements of NFPA 10-2002.
 - ix. Fire Extinguishers: Use hand portable extinguishers.
 - x. Cabinets: Use one of the following:
 - Aluminum cabinets.
 - Stainless steel cabinets.
 - Cabinets with vision panels.
- f. Maintenance Shops Facilities:** Comply with the additional performance criteria or exceptions below:
- i. Maintenance shops buildings:**
 - The entire maintenance building should be protected by a hydraulically designed wet pipe sprinkler system.
 - Sprinkler system should be designed according to NFPA No.13 ordinary hazard, Group 2 occupancy. The gallon per minute per square foot of area method should be used.
 - Sprinkler alarm valve risers should be located in the maintenance building. Water supply to the building should be from the water main loop system provided for the site.

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- Fire extinguisher should be installed in all areas.
- An exterior Siamese connection should be provided not more than 500 feet from a fire hydrant to feed the standpipe system.

ii. Covered buildings:

- Fire hydrants should be provided in locations along the fire lane. Fire extinguishers should be placed on columns to meet distances required by code.

iii. Fire Alarm and Detection System: Each building should have an individual fire alarm and detection system complete with pull stations, smoke detectors, alarm indicating devices, and control panel as required by codes. The system should be a multiplexed system with addressable devices and graphic annunciator at the main entrance. Each security control room for Administrative Office Building and Maintenance Shops Buildings should be able to monitor the entire system. System should be designed for interconnection to telephone system for off site monitoring. Each building should be alarmed as a single zone for off site monitoring.

- Each building should be interconnected with an underground conduit system encased in concrete duct banks. Manholes and handholes for telephone/data communication system should be utilized for interconnection between buildings.

3) Verification, evaluation and testing:

- a. Fire protection areas:** In proposal, identify fire protection areas.
- b. Fire detection and alarm:** In proposal, outline description of systems, inter-system interfaces, and functions provided.

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D50. Electrical Power

1) Requirements:

- a. Provide electrical power to operate all electrically operated devices and services.**
- b. The electrical system comprises the following:**
 - ✓ **Service and Distribution**
 - ✓ **Branch Circuits**
 - ✓ **Emergency Generation**

2) Performance Criteria:

a. General:

- i. Provide underground service entrance from serving utility. No overhead services allowed.
- ii. Locate metering and monitoring facilities in a single location; not in a mechanical equipment room.
- iii. Provide an interface between the electrical monitoring and the building automation system.
- iv. Design in accordance with all NFPA standards that apply to the project occupancy, application, and design.
- v. Control access to spaces housing electrical components and allow access only by qualified personnel.
 - Provide electrical distribution equipment with locking cabinets, doors, and panels when it is located in public areas.
- vi. Emergency Systems: Provide for emergency power for the areas required in Section VI—2.D50.2d below.
- vii. Moisture Resistance: Provide water-resistant NEMA 4 or 3R rated equipment for any equipment on building exterior.
- viii. Enclosures: Provide as required to protect equipment from environment in which it is installed, complying with NEMA 250-1997 plus:
 - Areas to be Hosed-Down, or Equivalent, Exterior or Interior: Type NEMA 4 or 3R rated.
 - Exterior, Exposed to Weather and Wind: Type NEMA 4 or 3R rated.
 - Exterior, Other Locations: Type NEMA 4 or 3R rated.
 - Interior, Subject to Settling Dust, Falling Dirt, or Dripping Liquids: Type 5.
 - Interior, Subject to Circulating Dust: NEMA Type 12 or 12K.
 - Interior, Other Locations: Type 1.
- ix. Capacity: Calculate in accordance with NFPA 70-2002. Use total load plus 25%.
- x. Power Consumption and Efficiency:

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- Comply with requirements of IEEE Standard 739-1995 and Energy Code.
 - Comply with requirements of ASHRAE 90.1-2001 and Energy Code.
 - Metering: For LEED measurement and verification credit, provide meters to measure power consumption of lights, receptacles, HVAC systems, water heaters, and elevators
- xi. Load Characteristics:
- Maximum Harmonic Current Distortion: Control within plus or minus 2 percent of design current.
 - Transient Suppression: Limit voltage transients below the damage curve of the electrical system and connected equipment.
- xii. Protection Against Disturbances:
- Provide circuits which serve sensitive electronic equipment with electrical characteristics within the ranges defined in IEEE Standard 1100-1999.
- xiii. General Receptacle System Voltage: Use 120 volts/1-phase/60 Hz.
- Provide special receptacles as indicated in the Space Needs Program.
 - Equipment Voltage: Provide 480 volt/3-phase/60 Hz electrical power to the following equipment, unless otherwise dictated by Space Needs Program and/or HVAC design solution:
 - Air handler fans.
 - Chillers.
 - Chilled water pumps.
 - Heating water pumps.
 - Cooling tower fans.
 - Dryers.
 - Lighting: Where appropriate, provide 277 volt/1-phase/60 Hz power.
 - Voltage Regulation: Within 5 percent of design voltage at all branch receptacles.
- xiv. Configuration of Protective Devices: Design wiring and protective devices so that outages caused by local overloads do not affect unrelated areas or systems.
- xv. Branch-Circuit Panelboards: Provide dedicated panelboards for each floor, for lighting which is separate from those panelboards serving equipment, and for sensitive electronic equipment.
- Where appropriate for lighting, provide 480/277 volt panelboards.
 -
- xvi. Motor Control: Provide motor control centers for each group of five motors.

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- Provide motors with the appropriate protective, control, and indicating devices. Motor control centers are not required if VFD's are used.
- xvii. Allowance for Change and Expansion:
 - Provide spare Capacity - System Wide:
 - Load: 25 percent, minimum.
 - Rated Capacity: 25 percent, minimum.
 - Number of Additional Circuits: 25 percent, minimum.
 - Provide Total Future Capacity (Spare and Space) - System Wide: 40 percent, minimum.
 - Load: 40 percent, minimum.
 - Rated Capacity: 40 percent, minimum.
 - Number of Additional Circuits: 40 percent, minimum.
- xviii. Minimize Operating Expense: Minimize operating expenses by providing peak-shaving capability, power factor correction, and energy management, if simple payback is less than 5 years.
- xix. Equipment Access: Provide space to facilitate removal or replacement of electrical system equipment for repair and maintenance. Allow for transport of major equipment as a complete unit.

- b. Service and Distribution:** Provide service entrance equipment, distribution equipment, transformers, motor control equipment, service and feeder wiring, conductors and raceways, metering, safety and control equipment, and other elements required for a complete functional system.
- i. Main Electrical Service: The utility will provide a service transformer to convert distribution voltage to the buildings' utilization voltage. Provide vault, pad-mount, or internal building vault with service feeder and meter as required by the utility.
 - ii. Main Service Equipment:
 - Main Devices: Use compartmentalized molded case circuit breakers. Do not use:
 - Fused switches.
 - Bolted pressure switch.
 - Grouped molded case circuit breaker
 - Switchboard Location: Locate the main switchgear in the main electrical room.
 - Provide seismic restraints.
 - iii. Panelboards: Provide as required to support buildings program needs.
 - Location: Do not locate panelboards in public corridors, hallways, or stairwells.
 - All panels should be located in dedicated electric rooms and these rooms should be accessible without going through secured, locked spaces.
 - Centrally locate panels to minimize branch wiring runs.

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- Provide separate panelboards for lighting, receptacles, and mechanical equipment.
- If LEED Measurement and Verification is pursued, provide monitoring system for each of the loads and as required by the LEED credit.
- Provide voltage drop calculations on feeders and branch circuits to limit to NEC recommended voltage drop.
- Branch Circuit Panelboards: Provide commercial grade:
 - Use copper or copper alloy busbars, do not use plated aluminum.
 - Circuit Breakers: use molded case circuit breakers or bolt in breakers. Do not use fused switches or plug-in breakers.
- iv. Enclosures: Provide door in door enclosures on all panels.
- v. Transformers:
 - Provide only dry-type transformers.
 - Distribution Transformers for Ordinary Loads: Use general purpose, energy- saving transformers.
 - Distribution Transformers for Loads Sensitive to Noise and Harmonics: Use shielded isolation transformers, K13 or higher rating.
- vi. Motor Control Centers: Use Copper Busbars; do not use plated aluminum.
- vii. Overcurrent Protectors: Use circuit breakers;
 - Do not use:
 - Fused switches.
 - Motor circuit protector (MCP).
- viii. Conduit:
 - Secondary Service and Distribution Feeders: Provide EMT, IMC or RGS. PVC is acceptable only when underground.
 - Branch Circuits: Do not use MC cable. Exception: with direct and specific approval from the State.
- ix. Space Conduit: Provide four 4 inch space conduits between all primary buildings.
 - Connect directly to each building's Main Electrical Service Equipment room.
- x. Conductors: Provide copper; do not use aluminum.
 - Use full capacity neutrals
 - Transformer Sound and Noise:
 - Do not locate transformers near sound sensitive areas specified in the Space Needs Program
 - Provide transformers with noise generation less than 36 dBA
- xi. Appearance: Do not locate switchboards, transformers, and panelboards in corridors, lobbies, or stairwells.

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- All electrical equipment should be located in dedicated electrical rooms.
- Conceal electrical conduit in walls and behind ceilings in the occupied spaces.
- xii. Intrusion: Protect electrical distribution equipment from unauthorized access and vandalism.
- xiii. Seismic Design: Provide service and distribution elements with the ability to move where differential movement is anticipated.
- xiv. Capacity:
 - Service Transformers: Provided by the utility.
 - Main Switchboards: Provide in accordance with code plus 25 percent spare capacity.
 - Interior Distribution Transformers: Provide as required to serve building circuits and equipment plus 25 percent spare capacity.
 - Branch Circuit Panelboards: Provide in accordance with code plus 25 percent spare capacity.
- c. **Branch Circuits:** Provide branch circuit wiring and receptacles and other branch circuit wiring systems from panelboards to lighting, wiring devices, equipment, and appliances, based on the Space Needs Program.
 - i. Receptacles:
 - Accessibility: Provide ADA accessible receptacles in all spaces; comply with WAC 51-40 and ADA Accessibility Guidelines.
 - Provide fourplex receptacle adjacent to each communications outlet. At areas with modular furniture provide one fourplex receptacle for each cable bundle (2 data and 1 voice). In some cases 2 cable bundles will be provided at a single outlet.
 - Provide floor boxes where indicated in program, to freestanding workstations or furniture not adjacent to walls and as required to meet requirements of project. Flush type only.
 - Provide convenience receptacles at intervals no greater than 10 feet along the base of all wall areas in occupied spaces.
 - Provide convenience receptacles in all corridors, storage areas, and utility spaces.
 - Comply with the Space Needs Program requirements.
 - ii. Capacity: Provide branch circuit wiring with sufficient capacity to accommodate future growth and renovation without major rewiring.
 - Lighting Circuits: Limit design loads to 50 percent of capacity permitted by code.
 - Receptacle Circuits: Limit design loads to 50 percent of capacity permitted by code.
 - Appliance Circuits: Limit design loads to 50 percent of capacity permitted by code.
 - Equipment Circuits: Limit design loads to 75 percent of capacity permitted by code.

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iii. Do not use the following for branch circuits:

- Surface mounted raceway.
- Aluminum wire
- MC Cable running horizontally in walls. Route vertically to j-box above ceiling.
- Wire smaller than #12 AWG
- 15 Amp branch circuits (use 20 Amp minimum)
- Power poles.

d. Emergency Power and Generation: Provide emergency power service including a diesel generator system, individual battery units, and/or uninterruptible power supply systems.

i. Provide emergency power, with durations as required by code, to the following:

- Emergency lighting.
- Warning lights.
- Elevators.
- Stair pressurization system.
- Smoke control system.
- Electric fire pumps.
- Fire detection and alarm system.
- Central control station and lighting.
- Security systems
- Paging/Public Address system
- Telephone/Data Communication systems
- Computer and Communications (MDF/IDF) Rooms
- Training room located in Administrative Office Building
- Mechanical equipment serving smokeproof enclosures.
- Other systems and areas as required by code or the Space Needs Program (see Section V).

ii. Emergency Generation Equipment:

- Diesel Generator:
 - Diesel engine: Provide four stroke, liquid-cooled engine with mounted radiator or heat exchanger.
 - Sound and noise: Provide generator exhaust silencer ratings of the critical type (25-35 dB(A)) and Schedule 10 stainless steel exhaust system. Wrap exhaust and silencer with industrial grade thermal insulation.
 - Provide generator enclosure of the sound attenuated type if installed outdoors.
 - Provide Automatic Transfer Switch sized to accommodate generator size.

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- Fuel Tank: Provide fuel storage sufficient to run the emergency diesel for 72 hours under full load.
 - › Provide easy fuel delivery access to fuel take fill system.
 - › If appropriate, connect to the Fuel Island diesel tank system
- Locate engine and exhaust so testing and operation will not cause noise and smoke to interfere with normal activities.
 - › Locate exhaust outlet a sufficient distance from buildings to avoid infiltration and induction into HVAC system.
- Provide 5-year factory warranty on all components including parts and labor to replace defective parts.
- Central battery systems: Use the following:
 - Ferroresonant Design
 - Wet cell Nickel-cadmium, 20 year life
- Individual battery units: Provide Self-Diagnostic type
- Locate electrical energy generation equipment away from high traffic areas, building occupants, public, and vehicular traffic.
- Fire safety: locate generation equipment away from storage areas and flammable materials.
- Explosion prevention: Ventilate equipment to prevent the build-up of explosive gases.
- Intrusion: Protect equipment from unauthorized access and vandalism.
- Seismic Design: Provide generation elements with flexible joints where differential movement is anticipated. Provide supports capable of sustaining twice equipment's weight.
- Moisture and Corrosion Resistance: Provide generation equipment which is resistant to moisture and corrosion.
- iii. Emergency Lights: Provide emergency lights which appear to be normal space luminaires.
 - Mechanical and electrical rooms should have self-contained emergency lights.
- iv. Service Life Span: Provide systems which will last a minimum of 20 years in service.
- e. **Maintenance Shops Facilities:** Comply with the additional performance criteria or exceptions below:
 - i. **Distribution:** Utilization voltage at each Maintenance Shops building should be 480Y/277 volt, three phase, four wire.
 - Distribution voltage of 480Y/277 volt, single phase and three phase, should be used for fluorescent and HID lighting fixtures and to operate 480 volt equipment and motors.
 - A subsystem voltage of 208Y/120 volt, single and three phase should be used to operate electrical equipment such as

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receptacles and motors (less than 1/2 HP). This voltage should be obtained via dry type transformers.

- ii. Switchboards and Panelboards:** Each building should have a main switchboard and associated building power and lighting panels located in designated electrical rooms. Motor control centers should be utilized to control motors and selected HVAC equipment. Additional distribution panels, lighting and power panels should be located throughout each building as required by loads.

 - Location: Do not locate panelboards in stairwells; it is acceptable to locate in alcoves off public corridors or hallways if adequate clearance is provided and code required exit ways are not blocked.
 - Switchboards should consist of individually mounted main overcurrent devices and group mounted feeder devices. Overcurrent devices should be solid state electronic where applicable. Switchboards should be provided with ammeter, voltmeter, power factor meter, kilowatt demand meter, undervoltage protection, underfrequency protection, phase failure protection and ground fault protection. Distribution, lighting and power panelboards should consist of group mounted circuit breakers bolted to bus bars. Motor control centers should consist of individually mounted circuit breakers with integral starters, control power transformers, HOA switches, and pilot lights. All overcurrent protective devices should be circuit breakers. A minimum of 20% spare capacity should be provided in all panelboards and switchboards.
- iii. Emergency System:** The emergency generator system discussed in Section VI—2.D50.2.d above should be installed at a central location, preferably near the Fuel Island.

 - In addition to the requirements above, the emergency power system should serve:
 - Fuel Island
 - Radio tower facility
 - Miscellaneous critical lighting and power in the Maintenance Shops Facilities as required in the Space Needs Program.
 - In addition to the emergency generation system, an individual battery back up system should also be provided for a minimum 90 minutes of back up power for the Fuel Management System.
- iv. Wiring Systems:** All wiring systems should be installed in conduits or approved cable trays. Wiring methods and materials should conform to all applicable provisions of the National Electric Code. All conductors should be copper. Minimum conductor size should be #12 for power wiring and #14 for signal wiring. A green grounding conductor should be installed in all conduits.

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- Conduits should be concealed; except that conduits installed in areas with no ceilings (shop areas, electrical rooms, mechanical rooms, etc.) may be exposed.
- PVC conduits should be used below grade. High voltage and feeder conduits should be installed in concrete duct banks. Rigid galvanized steel conduit should be used in all explosion proof areas, in shop areas, and areas subject to damage. PVC coated rigid galvanized steel conduit should be used in battery rooms. PVC coated or fiberglass conduit should be used in other corrosive areas. Electrical metallic conduits should be used otherwise.
- Equipment enclosures and conduit systems should be NEMA rated for the areas as required by the National Electrical Code.
- Dedicated conduits, circuits, receptacles, and separate panelboards should be designed for computer network.
- All wiring devices should be specification grade. Surge suppression equipment should be provided for incoming electrical services and for panelboards dedicated for computer equipment.
- A grounding system and lightening protection system should be installed for each building, canopy, and the fueling facility.

3) Verification Evaluation and Testing:

- a. Service and Distribution:** In proposal, identify service voltages, service amperage, and major equipment.

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D52. Lighting

D52. Lighting

1) Requirements:

- a. Provide means of artificially lighting interior and exterior spaces.**
- b. Lighting includes the following:**
 - ✓ **Interior Lighting: General room lighting, emergency/egress lighting, and accent lighting.**
 - ✓ **Exterior Area Lighting: General lighting of exterior spaces including roadways, driveways, walkways, parking areas, and recreation areas.**

2) Performance Criteria:

- a. General:**
 - i. **Light Levels:** Provide maintained ambient illuminance values for activities that are within the ranges specified in the IESNA Lighting Handbook-2000 or as required in the Space Needs Program.
 - ii. **Light Quality:** Provide luminous environment in each space in accordance with the functions and the character of the space and as required in the Space Needs Program.
 - iii. **Distribution:** Design with consideration for the geometry of space and location of visual tasks.
 - iv. **Visual Comfort:** Provide lighting systems with the following characteristics:
 - **VCP: Visual Comfort Probability (VCP)** of not less than 70.
 - **Luminance Ratio:** Maximum luminance of luminaire does not exceed average luminance by ratio of more than 4:1 at 45, 55, 65, 75, and 85 degrees from nadir for crosswise and lengthwise viewing.
 - **Maximum luminances of luminaires crosswise and lengthwise** do not exceed the following values:
 - 45 degrees above nadir: 7500 cd/sq m.
 - 55 degrees above nadir: 5000 cd/sq m.
 - 65 degrees above nadir: 3500 cd/sq m.
 - 75 degrees above nadir: 2200 cd/sq m.
 - 85 degrees above nadir: 1500 cd/sq m.
 - v. **Color of Light:** Provide as appropriate for functions accommodated in space and characteristics of interior finishes.
 - vi. **Character of Fixtures:** Coordinate with architecture and other building systems and with appropriate finish.
 - vii. **Emergency Lighting Systems:** Provide backup lighting for periods of normal power interruption as required in the code using battery backup or emergency power.
 - viii. **Moisture Resistance:** Design lighting equipment to be resistant to moisture regardless of whether exposure to moisture is probable.

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- ix. Capacity: Design lighting to deliver required illumination while operating within intended ratings.
- x. Power Consumption and Efficiency: Comply with requirements for energy efficiency of lighting in ASHRAE 90.1-2001.
- xi. Allowance for Expansion:
 - Spare Capacity: 25 percent, minimum.
 - Future Capacity: 40 percent, minimum.
- xii. Portable lamps: Lighting that is not permanently attached to the building or other building furnishings may not be used to accomplish required artificial lighting.
- xiii. Controls: Provide controls per Code.
 - Daylight zone fixtures should be provided with dimming ballasts, simple switching is not acceptable.

b. Interior lighting: Provide lighting for all interior spaces that is adequate in lighting level, quality and distribution for the performance of appropriate tasks in each space, regardless of the availability of natural light.

- i. Accessibility: Comply with WAC 51-40 and ADA Accessibility Guidelines and the following:
 - Extent: Provide accessible lighting controls for all spaces, regardless of location.
 - Location: Where accessible lighting controls are required, provide devices that are mounted so they can be reached from a wheelchair and are no higher than 48 inches. Standard receptacles should be at least 15 inches from the floor.
 - Operating Force: Where accessible lighting controls are required, provide controls that can be operated without tight grasping or pinching and by a force of not more than 5 lb.
- ii. Light Levels: Provide in compliance with Section VI –2.D52 above.
- iii. Light Quality:
 - Spatial Luminance: Provide lighting in which brightness ratios are within the following ranges:
 - Task area and adjacent darker surroundings: 3:1.
 - Task area and adjacent lighter surroundings: 1:3.
 - Task area and more remote darker surfaces: 10:1.
 - Task area and more remote lighter surfaces: 1:10.
 - Light sources and adjacent surfaces: 10:1.
 - Any surfaces within normal field of view: 30:1.
 - Color: Provide light sources throughout project with Color Rendering Index of not less than 85.
- iv. Emergency Lighting: Provide emergency lighting that complies with code. In addition to exit signs and means of egress lighting, provide emergency illumination of not less than 1 fc for a minimum of 1.5 hours in primary spaces.

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- v. **Fire-Resistant Construction:** Provide lighting elements made of non-combustible materials in compliance with code, that are UL listed or labeled, with flame spread and smoke developed ratings printed on product.
- vi. **Controls:**
 - **Lighting Controls:** Provide complete control systems as dictated by the Code. Provide level of control of lighting appropriate to type of space, LEED and State's requirements for energy conservation.
 - **Daylighting Controls:** Provide separate lighting circuits for spaces or zones adjacent to windows.
 - Provide daylight sensing controls with continuous dimming ballasts. Switching the daylight zone is not acceptable.
 - **Occupancy Controls:** Provide occupancy based lighting controls for private offices and conference rooms.
 - Provide occupancy sensor and programmable timing controls throughout the project.
 - **General Lighting Control:** All building lights should be equipped with automatic lighting control for a self-contained system.
 - Provide system with software controls.
 - Relays should be grouped in panels and not installed above ceilings except for occupancy sensors listed above.
- vii. **Office Building Light Sources:** Maximize the use of linear fluorescent lighting systems with straight lamps.
 - Minimize use of U –tube fluorescent lamps or biax lamps.
 - Do not use incandescent lamps.
 - Compact fluorescent lamps should be used only for specific decorative functions when appropriate.
 - Provide lamps with average lamp efficacy rating not less than the following:
 - Compact Fluorescent Lamps: 55 lumens/watt.
 - Full Size Fluorescent Lamps: 75 lumens/watt.
- viii. **Ballasts:** Provide electronic ballasts with fluorescent lamps: Maximum 10% THD.
- ix. **Luminaire Categories:** Provide luminaires that do not readily collect dirt and are easily cleanable.
 - Provide luminaires of IESNA Category I, II, or V, for minimum dirt accumulation and LDD factors.
- c. **Exterior Area Lighting:** Provide lighting for exterior spaces required by the Space Needs Program that is adequate in lighting level, quality, and distribution for the performance of the program tasks.
 - i. **Light Levels:** Provide maintained average illuminance values for exterior spaces that are not less than the following, when measured at grade:

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D52. Lighting

- Parking Lots, Low Activity: Comply with IESNA Lighting Handbook-2000, maximum uniformity ratio (average to minimum) of 4:1.
- Building Entrance Areas: 4 fc, maximum uniformity ratio (average to minimum) of 4:1.
- ii. Glare Minimization: Provide exterior area lighting that minimizes the incidence of discomfort glare and avoids disability glare under all normal conditions of use, in accordance with IESNA recommendations.
 - State prefers compliance with the requirements under the LEED Light Pollution Credit.
- iii. Color: Provide exterior light sources that render automobile colors with reasonable accuracy.
- iv. Appearance:
 - Provide exterior lighting that is compatible with overall project appearance and coordinated with site layout and building organization.
 - Luminaire Mounting:
 - › Installation on poles, wall mounting brackets, architectural fixtures, or suspended cables.
 - › Maximum height of 15 ft.
 - › Style compatible with building design.
 - › Material and finish compatible with exterior building elements.
 - Luminaire Design:
 - Light distribution by direct methods.
 - Optical control by reflectors.
 - Style compatible with building design.
 - Material and finish of housing compatible with mounting.
- v. Lighting Cutoff: Configure exterior lighting to avoid spill light on adjacent property and streets.
 - Provide zero light above 90 degrees horizontal.
 - State prefers compliance with the requirements under the LEED Light Pollution Credit.
 - Configure exterior area lighting to minimize illumination of building facade and building windows.
 - Exception: Where appropriate, provide architectural lighting of building façade.
- vi. Structure:
 - Provide poles for parking area lighting that are mounted on bases that are capable of withstanding moderate vehicle impacts.
 - Provide mounting system for exterior area lighting that is capable of withstanding 3-second wind gusts in excess of 90 mph.

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2. Systems Performance Guidelines
D52. Lighting

- vii. Service Life Span: Provide a system which will last a minimum of 25 years in service without major repairs.
 - viii. Vandal Resistance: Provide a system in which:
 - Parts are not easily removed.
 - Luminaires are mounted at minimum height of 12 ft above grade.
 - Lenses are of tempered glass, high impact acrylic, polyacrylate, or polycarbonate.
 - Metal gratings are used for protection of optical assemblies.
 - ix. Minimum Outdoor Operating Temperature: Provide lighting systems that operate at temperatures as low as -20 degrees F.
 - x. Power Consumption and Efficiency: Comply with requirements of code and LEED.
 - xi. Lighting Controls: Provide daylight sensing controls, on-off switches, and programmable timing.
 - xii. Maintenance Efficiency: Provide luminaires that do not readily collect dirt and are easily cleanable.
 - Luminaire categories: Provide luminaires of IESNA Category I, for minimum dirt accumulation and LDD factors.
 - Ease of relamping: Provide luminaires designed for easy relamping. Provide tool-less entry on exterior luminaires.
 - xiii. Luminaires: Provide direct lighting units.
 - xiv. Lamps:
 - Use one of the following types:
 - Compact fluorescent lamps.
 - Full size fluorescent lamps.
 - Metal halide lamps.
 - Incandescent lamps allowed in toilet and shower rooms.
 - Do not use the following without prior authorization by State:
 - Incandescent lamps; except in toilet and shower rooms.
 - Tungsten-halogen lamps.
 - U-tube fluorescent lamps.
 - Mercury lamps.
 - High pressure sodium lamps.
 - Low pressure sodium lamps.
 - Cold cathode lamps.
 - xv. Lighting Standards or Poles:
 - Use spun aluminum.
- d. Maintenance Shops Facilities:** Comply with the additional performance criteria or exceptions below:
- i. Maintenance Shop Light Sources: Provide high bay lighting using T5 high output fluorescent lamps.
 - Location: Provide fixtures between vehicle bays as appropriate to ensure that a large vehicle being serviced in a bay will not block illumination at the floor level.

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D52. Lighting

- ii. Site and exterior building lighting should be metal halide and should be controlled by photocells and electronic time clocks. Site lighting should be integrated into the Energy Management System. Site lighting should be designed in conjunction with LEED requirements, local light pollution regulations and to not interfere with adjacent airport. Site lighting should be accomplished with poles and fixtures placed on the perimeter of the property or from fixtures mounted on canopy and building structures.
- iii. Interior illumination levels should be designed in accordance with the recommendations of the latest edition of Illuminating Engineering Society (IES) Handbook. Interior lighting types and levels should be as follows:

<u>Location</u>	<u>Level</u>	<u>Fixture Type</u>
Individual Offices	50 f.c.	Recessed fluorescent fixtures with deep cell parabolic louvers
Open Offices	30 f.c.	Pendant mounted fluorescent indirect fixtures
Utility Spaces	30 f.c.	Recessed fluorescent fixtures with restrooms, etc. flat steel acrylic lenses
Shops	50 f.c.	High bay fluorescent general lighting with fluorescent industrial fixtures for task lighting
Repair Areas	75 f.c.	High bay fluorescent Industrial Fixtures
Training/Conference	50 f.c.	Recessed fluorescent/incandescent fixtures with dimming controls

- iv. All lighting in general office areas should utilize fixtures and switching to achieve multi-level lighting. Areas such as storage, toilets, files, etc. should utilize motion sensors to control lighting for energy efficiency. All lighting should be integrated into the Energy Management System.

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D52. Lighting

- v. Office areas should use daylight fluorescent lamps with energy efficient lamps and ballasts. Repair areas should T5 high output fluorescent lamps.

3) Verification Evaluation and Testing:

- a. **Exterior lighting:** In proposal, provide overall exterior lighting scheme, including types of luminaires and lamps.

Section VI Design Guidelines
2. Systems Performance Guidelines
D53. Communications

D53. Communications

1) Requirements:

- a. Design and provide all necessary elements for a voice and data communications distribution system.**

2) Performance Criteria:

a. General:

- i. Cable Standards: Comply with Washington Department of Transportation Telecommunications Infrastructure Cable Standards. See attachment (Section VII –3.B).
- ii. Design: Provide a design such that reconfiguration of open space workstations will not require placement of additional cable (service loops) or wiring between the work station and the telecommunications closet.
- iii. Telephone Service Entrance:
 - Locate the cable facilities and entrance protection within the main communications equipment room and/or MDF.
 - Provide certified vault on property line if required by building design or utility company.
 - Provide minimum three 4” rigid and or schedule 40 conduit, concrete encased from the MDF, including all trenching and backfill to the appropriate connection point at the property line.
 - Provide water resistant grout around all conduit penetrations; provide insulated bell fittings.
 - Depending on design, additional vaults may be required based on distances or multiple bends.
 - Final design of the service entrance facilities must have State and utility approval.
- iv. Main Distribution Frame (MDF) and Intermediate Distribution Frame (IDF):
 - Terminate all voice and data backbone cables in the MDF and IDF’s.
 - Arrangements of panels, equipment racks and cable cross-connect arrangements should be designed to avoid congestion meet ADA requirements and provide ease in expansion. All components should be easily accessible for testing, additions, moves and changes.
 - Design patch panel arrangements so as to simplify the administration of the cross-connect wiring for non-technical users. Final design will require State input, concurrence and approval.
 - Voice and data cable terminations will be on the same termination racks within the IDF’s. Final design will require State input and approval.

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- The patch fields should be color-coded as specified in the WSDOT Telecommunication Infrastructure Cable Standards.
 - v. Riser System: Provide a riser system, copper for voice and fiber for data, designed to transport the planned backbone cable plus allow for 33% growth.
 - vi. Horizontal Distribution System: Design horizontal distribution system that provides routing through a plenum, a cellular floor system, cable trays, floor ducts or conduits for voice and data cabling between the telecommunications closet and each combined voice/data station outlet.
 - Coordinate outlet locations with placement of workstation and office furnishings.
 - Wiring should comply with WSDOT Telecommunications Infrastructure Cable Standards (See Attachments, Section VII-3.A).
- b. Telecommunications Rooms:** Provide MDF (Main Distribution Frame) and IDF (Intermediate Distribution Frame) as follows:
 - i. MDF and IDF rooms should be sized to meet the requirements of the Physical and Environmental Requirements of the Space Needs Program (Section V).
 - ii. Location: when possible, all communications rooms should be stacked and centrally located to minimize length of horizontal cable runs; however, the IDF rooms should be located so that no horizontal cable run exceeds 300 ft (see WSDOT Telecommunications Infrastructure Cable Standards, Section VII-3.A).
 - iii. Use finish materials that will provide a dust-free environment and that comply with requirements of the Physical and Environmental Requirements of the Space Needs Program (Section V).
 - iv. HVAC should meet the requirements in the Space Needs Program.
 - v. Provide two spare vertical sleeves through floors between MDF and IDF's for future growth; minimum 4-inch diameter.
 - vi. Provide power to each room via its own dedicated panel, and provide with generator backup—See the Space Needs Program (Section V).
- c. Cable management:** Provide cable routing and management as follows:
 - i. Comply with the WSDOT Telecommunications Infrastructure Cable Standards (see attachment, Section VII).
 - ii. Interior to building:
 - Provide cable tray above the ceiling (or below access floors) in the public access corridors in the core.
 - Provide conduits, minimum 1 inch, from the communications outlet to above the nearest accessible ceiling (or below the access floor) in the public access corridor.
 - Support/anchor all conduits with seismic restraints complying with N.E.C. and/or accepted engineering calculations.

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- All metallic conduits, raceways, cable trays, racks, etc, should be grounded with a minimum no. 6 insulated copper wire to the nearest ground bar in either the MDF or IDF.
- d. Maintenance Shops Facilities:** Comply with the additional performance criteria or exceptions below:
 - i. Telephone/Data Communications System:** Extend an individual incoming cable (copper/fiber) from main administrative building MDF to each of the IDF's located in the Maintenance Shops Buildings.
 - ii. Telephone/Data Conduits:** A telephone/data conduit system should be provided consisting of at least two 4-inch underground empty conduits encased in concrete duct banks with pull wires. These conduits should be provided from each main telephone/data communication room to each associated building throughout the facility. Manholes and handholes should be provided as required and located to avoid traffic circulation.
 - iii. Feed Cable System (building to building):** Provide a feed cable system, copper for voice and fiber for data, designed to transport the planned backbone cable plus allow for 33% growth.
 - iv.** A system of empty conduits, outlet boxes, and terminal backboards should be provided in each building for an State furnished installed telephone system.
 - Pull wires should be installed in all empty and partially used conduits.
 - Telephone and data system equipment will be furnished and installed by the State.

3) Verification Evaluation and Testing:

- a. As-builts:** Comply with Washington Department of Transportation (WSDOT) Telecommunications Infrastructure Cable Standards. See attachment (Section VII).

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2. **Systems Performance Guidelines**
D60. **LEED and ELCCA**

D60--LEED and ELCCA

1) Requirements:

- a. **Provide a complete Project that is LEED "Silver" certified using the Leadership in Energy and Environment Design Rating System.**
- b. **Provide a complete ELCCA (Energy Lifecycle Cost Analysis) using the guidelines provided by the Department Of General Administration.**

2) Performance Criteria:

- a. **LEED "Silver" Certification:** The completed project must be "Silver" certified by the Green Building Council using the Leadership in Energy & Environmental Design (LEED) Rating System, Version 2.2, including the Project Checklist, May 2005.
 - i. **Points:** Accumulated rating points should be adequate to qualify for "Silver" rating (33 to 38 points).
 - ii. **LEED Quality Assurance Process Guidelines:** Comply with the requirements of the LEED Quality Assurance Process Guidelines administered by the Department of General Administration:
 - Web site: <http://www.ga.wa.gov/eas/green>
- b. **ELCCA:** Comply with the Energy Lifecycle Cost Analysis Guidelines available on the Department of General Administration web site:
 - ✓ <http://www.ga.wa.gov/EAS/elcca/intro.html>
- c. **Economic Criteria:** Design the site and building to comply with all appropriate economically feasible criteria in the version of the LEED rating system referenced above.
 - i. Initial construction cost increases that are the direct result of complying with specific LEED criteria should be justified with energy or operating cost savings that have a payback period less than 5 years.

3) Verification, evaluation and testing:

- a. **LEED strategy:** In proposal, identify specific items in LEED that will be used to meet "Silver" certification.
 - i. Complete the LEED Registered Project Checklist, Version 2.2, October 2005.
 - ii. Comply with submittal requirements for Preliminary Design found in the LEED Quality Assurance Process Guidelines administered by the Department of General Administration.
- b. **ELCCA:**
 - i. In proposal, provide a preliminary energy lifecycle cost analysis including:

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- Estimated first cost of HVAC system.
 - Estimated operating and maintenance costs per year.
 - Estimated energy use in kilowatts per year.
- ii. Design Development: Provide a complete Energy Lifecycle Cost Analysis in accordance with the Energy Lifecycle Cost Analysis Guidelines from the Department of General Administration.

Section VI Design Guidelines
2. Systems Performance Guidelines
D90. Other Services

D90. Other Services

1) Requirements:

a. Provide other buildings systems and services as required in the Space Needs Program:

- ✓ **Security System**
- ✓ **Closed Circuit Television Surveillance (CCTV)**
- ✓ **Masking Noise System**
- ✓ **Paging/Public Address System**
- ✓ **Fuel Management System**

2) Performance Criteria:

a. Security system:

- i. Exterior: Provide cardkey access control at all exterior doors.
- ii. Interior: Provide cardkey access control at the following:
 - Elevator: at the Lobby level.
 - Lobby: Provide access control to all doors communicating with the Lobby.
 - Stairs: Provide access control to all doors.
- iii. Cardkey Access System: Provide all the elements necessary for a complete card access system to the building and internal spaces.
 - Install integrated computer-based security system with proximity actuated cardkey readers for all exterior doors, elevator lobbies and stairs at each floor such that all office areas will be secure from public entry, confidential file rooms, mechanical and electrical spaces, loading dock delivery and pick up entrance, computer center, Main Communications Equipment Room, communications closets, designated areas in the Maintenance Shop Facilities, and other spaces defined in the Space Needs Program. Provide separate raceways for power wiring and signal wiring to the system control equipment, as required.
 - Connect to continuous (emergency) power branch panels and provide battery power for a minimum of four hours.
 - Install the system control equipment at the building reception or security station and connect power and signal wiring.
 - Access control equipment should be capable of interrogating key cards, recording the date and time of the interrogation plus the resulting action, permitting access by signaling the reader and door magnetic locking means, or denying access.
 - Equipment should be able to encode or decode key cards.
 - Provide access control equipment with interface to the CCTV system.

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- System should be able to support up to 100,000 cards with unique numeric identification.
- System should be able to read HID Corporate 1000 cards.
- Security System Integration: Where magnetic contact switches, motion detectors, or other security system devices are installed, integrate with the Access Control System.
- iv. All entry control systems should be mounted on the same side and in the same area as automatic door opener switches/buttons.
- b. Closed Circuit Television Surveillance (CCTV):** Provide a complete working closed circuit television surveillance system to include cameras, lenses, brackets, monitors, DVR recorders, cable and all other equipment necessary for the proper operation of the system.
 - i. Coverage: provide a system with complete surveillance coverage of the following:
 - Administrative office building:
 - Lobby.
 - Elevator lobbies.
 - Computer server room.
 - All exterior entries.
 - Loading dock.
 - Parking lot.
 - Radio tower (to provide surveillance of entire site)
 - Maintenance Shop Facility
 - Lobby and/or main corridor.
 - Elevator lobbies.
 - All exterior entries (Exception: vehicles service bays unless required in Space Needs Program).
 - Loading dock.
 - High value/risk storage areas.
 - ii. Monitoring: Provide master control panel with video monitors in a secure area at the building reception or security station.
- c. Masking Noise System:** Provide all elements necessary for a complete masking noise system for the Administrative Office Building.
 - i. Zoning: Provide a separate zone for each floor.
 - ii. System Components and Design:
 - Refer to the Space Needs Program for areas to be served by the masking noise system.
 - Location of speakers: Masking system loudspeakers should be located above the suspended ceiling in metal enclosures suspended from chains.
 - If exposed structure above ceiling is "hard," i.e. exposed concrete, wood or metal decking without fire proofing;

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- loudspeakers should be suspended just above the ceiling, radiating upward.
 - If exposed structure above ceiling is "soft", i.e. thermal insulation or fire-proofing, loudspeakers should be mounted as high as possible within the ceiling cavity, radiating downward.
 - Loudspeaker spacing should be such that uniformity of masking noise distribution at seated ear height is within + 1 1/2 dBA throughout the area.
- iii. **Performance:** The masking noise system should provide a smooth, continuous spectrum from 125 Hz to 8000 Hz.
 - The overall sound pressure levels should be adjustable. This should be achievable without noticeable distortion, break-up or distraction to the building occupants.
 - Each speaker volume should be capable of being adjusted individually.
- d. Paging/Public Address System:** A zoned paging/public address system should be provided for service throughout the open office areas and all corridors, common and shared spaces, restrooms and public spaces of the Administrative Office Building. System should be controlled from the security/reception desk and be designed to be interconnected to telephone system. System should also be available from the remote fire annunciator panel. System speakers should have individual volume controls and be of a type suitable for the each area to overcome ambient noise.
- e. Master Antenna Television System:** A master antenna television system should be provided in each building complete with outlets and distribution.
- f. Clocks:** Clocks should be located in security rooms, crew rooms, locker rooms, corridors, and public spaces.
- g. Maintenance Shops Facilities:** Comply with the additional performance criteria or exceptions below:
 - i. Intrusion Detection System:** An intrusion detection system should be provided in each building complete with provisions for door monitoring, access control, alarm indication, and control panel. All site and access points should have intrusion detection. Each security control room for the complex should be able to monitor the entire system. System should be designed for interconnection to telephone system for off site monitoring. Each building should be alarmed as a single zone for off site monitoring.
 - Each building should be interconnected with underground conduit system encased in concrete duct banks. Manholes and handholes for telephone/data communication system should be

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D90. Other Services

utilized for interconnection between buildings. Pull wires should be installed in all empty conduits.

- ii. Closed Circuit Television (CCTV) System:** A closed circuit television system should be provided in each building complete with cameras, controls, and monitoring equipment. All site access points as well as building, fueling area, parking areas and parts rooms should be monitored via closed circuit television. Each security control room for fixed route and paratransit services should be able to monitor the entire facility or select buildings.
 - The closed circuit television system should utilize high resolution, low light color cameras with color monitors.
- iii. Fuel Management System:** A fuel management system should be designed to allow fueling usage to be monitored between State departments. Each security control room for the complex should be able to monitor the entire system. System should be designed for interconnection to telephone system for off site monitoring of fuel system.

3) Verification Evaluation and Testing:

- a. Cardkey Access System:** In proposal, identify the Access System to be provided, including capacity and functions.
- b. Closed Circuit Television Surveillance (CCTV):** In proposal, identify CCTV system to be provided, including capacity, coverage, performance specifications and functions.
- c. Masking Noise System:** In proposal, identify the masking noise system to be provided, including performance specifications and functions.
 - i. State's acceptance of the proposed system is contingent upon demonstration of the system in a comparable office environment.

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D90. Other Services

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2. Systems Performance Guidelines
G. Site Work

G. Site Work

1) Requirements:

- a. Provide all modifications to the site and site improvements and utilities required for proper functioning of the Project. This includes modification and improvements to the site's rights-of-way and easements.**
- b. Site work comprises the following elements:**
 - ✓ **Site Preparation: All modifications to the site and grades required for construction of new work and for proper functioning of the project.**
 - ✓ **Site Improvements: All elements required to provide finished and durable site surfaces, landscaping, and outdoor improvements described in the project program.**
 - ✓ **Site Services: All outdoor and underground elements required to complete the delivery of services defined in Section VI—2.D.**

2) Performance Criteria:

a. General:

- i. Weather Shelter: Provide shelter from weather for:**
 - Persons waiting for and getting out of automobiles at public entrances; accommodate minimum of 6 people standing.
 - Sitting outdoors; accommodate minimum of 10 seating locations.
 - Persons waiting near main building entries; accommodate minimum of 6 people standing.
 - Heat/Cold: Design to minimize heat gain in summer and maximize heat gain in winter.
 - Wind: Design to shield people from wind in all seasons.
- ii. Cleanliness: Provide above grade elements, fixtures, and equipment that:**
 - Prevent attraction and adherence of dust and air-borne dirt and soot and minimize appearance of settled dust and dirt.
 - Are washed reasonably clean by normal precipitation.
- iii. Integration with existing: design new construction and activities on the site to fit existing to topography, soils and vegetation as much as possible.**
- iv. Finished Surfaces:**
 - Make finished surfaces smooth and uniform in appearance, without depressions that collect water.
 - Do not leave soil surfaces exposed in finished work; minimize the amount of time soil surfaces are left exposed.
 - If, after consideration of other performance requirements, options remain as to methods of finishing soil surfaces, the State prefers:
 - Landscaping, rather than paving.

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G. Site Work

- Native perennial shrubbery and ground covers, rather than lawns.
- v. Conceal unsightly site elements from view from the street and from view from the Administrative Office Building parking and entry areas of the site:
 - Trash collection and storage areas.
 - Exterior building equipment.
 - Maintenance Shops Facility storage, covered parking, and similar industrial storage and utility areas.
- vi. Safety:
 - Prevent access by unauthorized persons to outdoor areas containing electrical equipment that has exposed powered components.
 - Provide visual barriers at extreme changes in elevation near roadways.
 - Provide tactile warnings where pedestrian walkways cross or run adjacent to roadway.
 - Vehicular Collision: Design to minimize the probability of vehicular impact on site fixtures and accidental driving on walkways, lawns and landscaped areas.
- vii. Bicycle Security: Provide fixed mountings for securing of bicycles against theft.
 - Bicycle States to provide lock and chain.
 - Allow for securing a minimum of 5 bicycles near each primary entrance.
- viii. Maximum Allowable Slopes:
 - Slopes with smooth pavement: 1:12, unless restricted to vehicular use.
 - Slopes with pedestrian-inhibiting vegetation: 3:1
 - Slopes with no access from top: Limited only by structural stability and resistance to erosion.
- ix. Structural design:
 - Bearing Capacity: Under substructure, paving, and site structural elements, maintain natural bearing capacity or achieve correct compaction as required to prevent uncontrolled subsidence or other movement.
 - Provide foundations or other mountings in accordance with code and as required to support the completed and operational element permanently and safely and without uncontrolled subsidence or other movement.
 - Site Structures with Floors or Roofs: Design to comply with same requirements as building superstructure.
- x. Weather resistance:
 - Built Elements: Comply with requirements of Section VI—2.B.

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G. Site Work

- Plants and Turf: Use plants that will withstand extremes of weather likely to occur in any 5 years without supplementary irrigation and without seasonal protection other than mulch.
 - State will maintain to the level specified by the Design-Builder as necessary to assure survival of the plants;
 - State expects that supplementary irrigation will be required during new plant establishment period.
- xi. Soil Erosion Resistance: Comply with the code, local requirements and the following:
 - Maintain the existing site features that contribute to erosion resistance to the greatest extent possible.
 - If the present natural resistance to erosion is insufficient; take measures to improve the resistance to erosion.
 - Design to minimize soil erosion.
 - Use compost blankets for erosion control on all non-paved areas.
 - If erosion occurs within one year after completion, provide improved erosion control measures within one week after notification by State.
 - If erosion occurs during construction and within one year after completion, relocation or replacement of eroded soil and repair of eroded areas shall be performed by the Design- Builder at no cost to the State.
- xii. Traffic Resistance: Provide finished site surfaces that are permanently resistant to the type of traffic to be expected, under all weather conditions.
 - Provide pavement or other surfacing where vehicles and pedestrians are reasonably expected to travel.
 - Where vegetated surfaces will not withstand the anticipated traffic, provide pavement or other surfacing.
 - If vegetated surfaces are damaged due to traffic within one year after completion, replacement of vegetation with more durable materials shall be performed by the Design- Builder at no cost to the State.
 - Vegetation and fencing may be used to discourage pedestrian traffic, if other functional requirements can be met.
- xiii. Flooding:
 - Control storm water runoff as required to prevent damage to project elements, including vegetation; and to prevent damage to neighboring sites, including vegetation.
 - Prevent storm water runoff into public utilities in excess of actual capacity or amount allowed by local building officials, whichever is less, under conditions of the most extreme rainfall that might occur in 50 years.

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- Minimize increase in storm water runoff into local waterways and drainage-ways as required by local building officials.
- xiv. Theft Deterrence: Provide fixtures that are either anchored securely to the ground using fastenings that are not easily removable or that are too heavy for two people to carry; and that have little intrinsic or salvage value.
- xv. Operation and maintenance: Provide a site design and site elements that minimize maintenance requirements.
- b. Maintenance Shops Facilities:** Comply with the additional performance criteria or exceptions below:
 - i. None required.

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2. Systems Performance Guidelines
G10. Site Preparation

G10. Site Preparation

1) Requirements:

- a. Provide all modifications to the site required for proper functioning of the Project.**
- b. Site preparation is comprised of the following elements:**
 - ✓ **Clearing: Removal of trash and vegetation that is not needed, and temporary erosion control.**
 - ✓ **Earthwork: Changing of grade levels, removal of soil and rock, modifying existing soils in preparation for construction, and temporary and permanent erosion and sediment control structures made of soil or rock.**
 - ✓ **Hazardous Waste Remediation: Removal, treatment, or other remediation of hazardous wastes found on site (Note: No hazardous waste has been identified on the Project site).**
 - ✓ **Storm Water System: Retention and treatment of storm water runoff.**

2) Performance Criteria:

a. General:

- i. **Soil Erosion Resistance:** Provide soil erosion control as required by code, the local building official, and as follows:
 - During construction, take whatever measures are required to minimize the amount of eroded soil that is transported off the site or into waterways under the most extreme short term and 24-hour rainfall events that might occur in 25 years.
 - In the design and constructed elements, take whatever measures are required to minimize soil erosion under the most extreme short term and 24-hour rainfall events that might occur in 25 years, and to prevent eroded soil from being transported off the site or into waterways.
 - Limit continuous slopes to maximum of 30 feet measured vertically, unless intermediate terraces with drainage swales are provided.
- ii. **Ease of Maintenance:** Design and construct earthwork elements so that they are permanent, not requiring periodic maintenance to maintain stability or appearance.

b. Earthwork:

- i. **Modify the site grades and soils as required for construction of buildings and utilities, and for proper functioning of the Project.**
- ii. **Retaining Walls:** Design retaining walls to permanently resist soil and water pressure as well as live loads.

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2. Systems Performance Guidelines
G10. Site Preparation

- iii. Erosion Resistance: Permanent erosion control structures are required wherever permanent vegetation will not prevent erosion or sediment loss.
 - iv. Whenever grades are changed, vegetative stabilization is required immediately; to be maintained until final grades are stabilized with permanent vegetation.
 - v. Ease of Maintenance: Do not use invasive or competitive plants for temporary cover crops.
- c. Storm Water System:**
- i. Hydro-geological investigation: Provide a detailed hydro-geological investigation, conducted in coordination with Thurston County and City of Lacey staff, to establish a storm water management strategy.
 - ii. Contamination: Storm water may be contaminated by material that has spilled onto the paved surfaces. These materials include oils, fuels, and cleaning fluids.
 - Provide a contaminated flow system designed to handle flows which may have a high concentration of contaminants.
 - Large events typically dilute contaminants to acceptable levels; design for the initial flush of stormwater of a small event, since large events will overflow a trench drain collection system after the initial flush has been collected.
 - The initial flush for the contaminated system should be based on the rainfall depth in inches over the parking area surrounding the building where contamination potential is the highest.
 - The inches of rainfall is assumed to fall over a 24-hour time of duration corresponding to a storm with a 2-year recurrence interval.
 - The Rational Method should be used for computation of the peak design discharges.
- d. Maintenance Shops Facilities:** Comply with the additional performance criteria or exceptions below:
- i. Drainage:
 - Drainage must be directed away from all structures.
 - Pavement Grades: On-site pavement grades should be established with an attempt to maintain a preferred slope grade of 1.0% and an absolute minimum slope grade of 0.5%.
 - The finish floor elevations of all structures should be set a minimum vertical distance of 18 inches above top of crown or 18 inches above top of curb, which ever is greater. If this cannot be achieved, the site should be graded so as to prevent off-site flows from entering the site.

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2. Systems Performance Guidelines
G10. Site Preparation

- On-site flows should be conveyed through the site to the storm water retention system.

Section VI **Design Guidelines**
2. **Systems Performance Guidelines**
G20. **Site Improvements**

G20. Site Improvements

1) Requirements:

- a. **Provide all elements required for finished and durable site surfaces, landscape plantings and outdoor improvements.**
- b. **Site improvements comprise the following elements:**
 - ✓ **Pavements and Surfacing:** Finished surfaces for vehicular, pedestrian, and maintenance traffic; other than turf.
 - ✓ **Site Fixtures and Equipment:** Fixtures, equipment, and miscellaneous structures located out-of-doors, except those located on the roof or mounted on walls of buildings.
 - ✓ **Landscaping:** Indoor and outdoor plants and elements supporting plants.

2) Performance Criteria:

a. General:

- i. **Pavements and Surfacing:** Provide rigid surfaces that are finely textured, consistent in color and finish, sloped and drained to avoid ponding, and neatly finished at edges.
 - **Vehicular Areas:** Mark neatly to denote traffic lanes and parking spaces.
 - **Pedestrian Areas:** Design to contrast visually with vehicular areas.

- b. **Paving and Surfaces:** Provide exterior pavements and surfacing, as required by the project program and by code that will accommodate, without damage, the types of traffic that can be reasonably anticipated for the programmed uses of the facility.

i. **Paving and Surfaces Include:**

- Exterior paved or surfaced areas such as roadways, driveways, parking lots, and walkways.
- Site's adjacent rights-of-way and easements.
- Exterior steps and ramps not connected to buildings, including handrails and stair nosings.
- Appurtenances for roadways and driveways, including curbs, gutters, guardrails, pavement markings, and parking bumpers.
- Signs, including traffic signals, "stop," "yield," and directional signs, and parking space marking and identification.

- ii. **Durability:** Provide pavements and surfacing systems that are designed and engineered to withstand the types and intensity of traffic anticipated for the facility.

- c. **Site Fixtures and Equipment:** Provide all fixtures, equipment and miscellaneous structures located out-of-doors that are required by the project program.

i. **Site Fixtures and Equipment Include:**

- Site furnishings:

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G20. Site Improvements

- Outdoor seating.
 - Waste receptacles.
 - Bicycle racks.
 - Outdoor lighting.
 - Outdoor signs, other than roadway and parking lot signs.
 - Main building identification sign.
 - Fences and security barriers.
 - ii. Signs: Provide site signs compatible with architectural elements and unified throughout the site and with the building signage.
 - iii. Fences and Barriers: Provide at locations where required to inhibit passage of people and/or vehicles.
 - For security areas, provide minimum height of 6ft., not easily climbable, with a maximum opening size of 4in..
 - iv. Bicycle Racks: Construct of materials strong enough to resist forces generated by attempted forcible removal of a bicycle.
 - v. Durability: Provide fixtures and equipment with a service life of 15 years under normal use and weather.
- d. Landscaping:** Provide landscaping over all areas of the site not finished with paving, surfacing, or buildings.
- i. Landscape planting features that are required are:
 - Visual screening of the following:
 - Utility areas, including trash and recycle collection.
 - Sewage and storm water facilities.
 - Private outdoor activity areas.
 - Shading outdoor activities.
 - Improving appearance of natural and functional features as appropriate.
 - Permanent erosion control plantings as required above in Section VI—2.G.
 - ii. Plants: Select, arrange and plant for pleasant appearance throughout the year.
 - Provide an appropriate landscape using trees, shrubs, grass and ground covers.
 - Where possible, retain original plan materials or reuse original plant materials stockpiled from clearing the site.
 - Provide pleasant appearing evergreens, perennial flowers, ground covers, and deciduous shrubs.
 - Design the landscape to look complete within a year after planting and to maintain the same appearance indefinitely without significant pruning.
 - Do not use: Plantings that look incomplete or barren in the winter or between seasons.
 - Plants in Beds: Border with mulch for tidy appearance.

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2. Systems Performance Guidelines
G20. Site Improvements

- Mulch: Use only types with pleasant appearance: dark earth color and medium-grade in particle size.
 - Plants Used to Inhibit Foot Traffic: Spiny leaves, such as holly, may be used, but spines, like on spiny honey locust, may not.
 - Avoid use of plants listed on Washington State noxious weed list.
 - Insect and Disease Resistance: Avoid the use of plants and turf that are known to be subject to insect damage or disease.
- iii. Ease of Maintenance:
- Plants: Arrange for ease of access for weeding, mulching, and watering.
 - Shrubs and Woody Plants: Do not use plants that require routine annual or seasonal pruning.
 - Non-Woody Plants: Do not use plants that are not perennial.
 - Plants in Planters: Provide permanent irrigation and drainage system.
- iv. Service Life: It is understood that ultimate survival of plants will depend on weather conditions as well as maintenance; however, the Design-Builder is responsible for providing plants that will survive under the specified conditions when maintained according to the procedures furnished by the Design-Builder at closeout.
- Soil: Provide soil suitable for growing the plants provided, with adequate nutrients for the first year of growth, based on recommendations of established authorities.
 - The Design-Builder shall provide maintenance of all plants, including irrigation, during the first year after completion.
 - At the end of one year after completion of the project, if any plants are dead, dying, or wilting, the Design-Builder will evaluate the cause and replace them with other plants of better impact resistance. The Design-Builder will care for the replacement plants during their establishment period and furnish maintenance data to the State's maintenance staff.
- v. Weather Resistance:
- Trees and Woody Shrubs: Should be sustainable without supplemental irrigation.
 - Mulch: Where soil would otherwise be exposed around individual plants, cover soil with mulch that allows penetration of precipitation but minimizes evaporation; coordinate type of mulch with erosion resistance requirements.
- vi. Accidental Damage:
- Plants in Beds: Where planting beds adjoin turf areas, shape edge of turf for ease of mowing with motorized equipment without damage to plants in beds.
 - Street Trees in Pavement Wells: Protect trunk and root area from mechanical damage and provide tree grates.

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- e. **Irrigation:** Provide a permanently installed automatic irrigation system with flow sensor and remote controlled access to controller.
 - i. LEED exception: If Proposer chooses to acquire LEED credits for reducing or eliminating use of potable water for irrigation of landscaping, irrigation system may be eliminated.
 - Provide landscape planting that requires no irrigation year round. Proposer must provide for first year irrigation as required to adequately establish planting.
 - ii. Irrigation Systems: Provide pop-up irrigation systems and drip irrigation systems suitable for urban landscape planting areas.
 - iii. Irrigation Water Source: Same as building supply.
 - iv. Irrigation Capacity: Sufficient to maintain landscape plantings with maximum contribution by precipitation equal to the Precipitation Allowance (PA).
 - Precipitation Allowance (PA): 50 percent of normal rainfall, maximum, in any month.
 - Application Rate: Enough water to soak soil to depth of 6-8 inches at each application; intermittent applications if necessary to avoid saturation to runoff; adjustable for less water on damp soil.
 - Irrigation Efficiency (IE): 55 percent, minimum, of applied water actually reaching plants, under normal wind conditions.
 - Irrigation Frequency: Maximum of once a day, per zone.
 - v. Irrigation Control: Provide for automatically controlled system with remote controlled access.
 - vi. Water Use Monitoring: Provide a meter separate from building water supply meter and flow sensor.
 - vii. Weather Sensors: Provide sensors for rain, ground moisture and humidity. Prevent operation in the rain.
 - viii. Variation in Application Rate at Individual Locations: Not more than 50 percent.
 - ix. Sloped Areas: Prevent drainage out of lower outlets.
 - x. Location of Irrigation Equipment: Locate to provide complete coverage of landscaped areas requiring irrigation, without overspray or runoff onto pavements, buildings, or unirrigated planted areas.
 - xi. Hydrozones: Locate plants of different water needs in groups for ease of water application.
 - Coordinate irrigation design with plant selection requirements.
 - xii. Protect Irrigation Equipment: Design and locate to prevent damage by normal user traffic and plant maintenance equipment.
 - Conceal in ground or out of way of landscape maintenance equipment.
 - xiii. Do not locate irrigation equipment within a field of turf intended for foot traffic.

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- xiv. Valve boxes: Provide all valve boxes in black color.
- xv. Prevent contamination of potable water supply by irrigation water.
- xvi. Closeout: Provide an annual irrigation program, with monthly schedules and interim procedures for plant establishment period.
- xvii. Provide a low point drain for all irrigation loops.

- f. Maintenance Shops Facilities:** Comply with the additional performance criteria or exceptions below:
 - i. Concrete and Asphaltic Concrete Pavement: Provide pavement section designs based upon proposed loads and traffic volumes generated by the Maintenance Shops Facility's vehicles.
 - Provide for the extra loads required by the heavy trucks and specialized equipment. Detailed vehicle information is provided in the Maintenance Shops Program (Section V –3). For paving sections, refer to the WSDOT 2006 Standard Specifications and Standard Plans for Road, Bridge and Municipal Construction.
 - Provide medium to light-duty asphalt concrete sections in the administration, customer, and employee parking areas.
 - ii. Reinforced concrete: Provide only in specific areas based on probable high traffic volumes and areas where chemicals may be used (i.e. fuel and cleaning solvents).
 - Recommended areas include the aprons 20 feet around the Equipment Building overhead door openings and Fuel Island.
 - Further pavement analysis may indicate that some of these areas may change to a heavy-duty asphalt concrete section in lieu of a reinforced concrete section.

3) Verification Evaluation and Testing:

- a. Paving and Surfaces:** In proposal, identify the locations of paving and surfaces on the site, plus the types and thicknesses/sections to be used for various functions. Show section details of paving sections required for heavy equipment/truck traffic areas.
- b. Landscaping:** In proposal, identify location and types of landscaping plant materials.
 - i. LEED exception: If Proposer chooses to acquire LEED credits for reducing or eliminating use of potable water for irrigation of landscaping, identify proposed landscape planting that requires no irrigation year round and show successful use in similar applications and climates.
 - ii. Landscaping maintenance: At closeout, Design/Builder will provide complete maintenance instructions/procedures, and staff training, for maintaining the landscaping and irrigation system.

Section VI **Design Guidelines**
2. **Systems Performance Guidelines**
G30. **Site Services**

G30. Site Services

1) Requirements:

- a. **Provide the following site services:**
- ✓ **Water Supply:** Supply and distribute water for all purposes required in buildings and on site.
 - ✓ **Sanitary Sewer:** Remove liquid waste generated in buildings on site.
 - ✓ **Storm Sewer:** Remove, control, and store rainwater runoff from buildings and site areas.
 - ✓ **Natural Gas:** Supply project functions.
 - ✓ **Electrical Power:** Supply power for project functions.
 - Provide underground electrical distribution system for all buildings on site.
 - ✓ **Artificial Lighting:** Provide site lighting.
 - ✓ **Telecommunications:** Provide the site elements of telecommunications.
 - ✓ **Surveillance and Security Controls:** Provide the site elements of security systems.

2) Performance Criteria:

- a. **Water Supply:** Provide means of supplying, collecting, storing, and distributing water from the waterline system for all purposes required in buildings and on site.
- b. **Sanitary Sewer:** Provide sewage disposal system to meet building sanitary sewer requirements and to connect to the Public Sewer System in accordance with requirements of the local authorities.
- c. **Storm Sewer:** Provide a stand-alone storm sewer to meet project storm drainage requirements in accordance with local regulations.
- i. **Type of Drainage:** Provide gravity drains throughout the system. Do not connect to the local public utility system; except as authorized by the local authorities.
 - ii. **Storm Grates:**
 - Provide storm grates with non-slip surfaces.
 - Provide storm grates with the strength to withstand repetitive loading without damage or undue wear.
 - iii. **Maximum Cleanout Spacing:** 100 feet.
- d. **Maintenance Shops Facilities:** Comply with the additional performance criteria or exceptions below:
- i. None required.

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2. Systems Performance Guidelines
G30. Site Services

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3. Quality Management Guidelines

A. Quality Management Plan:

Provide a Quality Management Plan that includes the following guidelines:

The Proposer's Quality Management Plan will be included in the Phase II selection process (See Section III—C)

- 1) **Design/Builder Quality Management Program:** Provide a Quality Management Program that ensures that the design documents and resulting work are in accordance with the contract requirements.
 - a. **Quality Management Reviews:** Provide procedures for reviewing all design documentation, construction documentation, technical specifications, shop drawings, samples, certificates or other submittals for contract compliance.
 - i. Include the name of the persons authorized to sign the submittals for the Design-Builder.
 - ii. Provide an inspection schedule, keyed to the design and construction schedule, indicating the time scheduled for each inspection and test; include provisions for review and concurrence by the State in areas that are identified by the State.
 - b. **Code Inspections:** Provide procedures to obtain the proper inspections as prescribed by the applicable codes, regulations and in accordance with the contract documents.
 - c. **Contractor Testing:** Provide for employing an independent test lab directly by the Design-Builder for the testing required by the contract documents and local jurisdictions.
 - d. **Weekly reports:** During design, prepare and submit to the State a written weekly report of the quality management activities.
 - i. Provide a report that, at a minimum, includes:
 - Status of design as it relates to the project design schedule.
 - Program adherence,
 - Scheduling adherence.
 - Peer reviews.
 - Scope validation reviews.
 - Agency reviews and approvals.
 - Constructability adherence.
 - Coordination of documents.
 - e. **Daily reports:** During construction, maintain and submit to the State a daily written report/log that includes quality management activities monitoring the construction. Provide a report that identifies:
 - Weather conditions (temperature, dry, wet, amount of rain).
 - Trade activities (classification of workers within the trade).

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3. Quality Management

- Staffing number for each trade.
 - What work trades were performing on the project.
 - Equipment on site.
 - Important communications with A/E, State, inspectors, and jurisdictional inspectors.
 - Testing and follow-up testing including supplier or specific trades involved.
 - In general: A factual record containing specification reference for the work being performed, and quality management activities.
 - Entries for the Quality Management Representative's signature certifying that all materials and supplies incorporated into the work are in compliance with the Contract Documents and A/E approved modifications.
 - Off-Site Inspections and findings
- f. Review of Submittals:** Provide a procedure for review of document submittals by the Quality Management Representative for completeness, clarity and consistency.
- i. Certification: Provide the following stamped certification, signed by the Quality Management Representative on behalf of the Design-Builder: *"On behalf of the Design-Builder, I certify that the drawings, specifications and other documents submitted herewith, in my professional opinion, fulfill the requirements of the program, and provide a completed and properly functioning facility suitable for the purposes for which it is intended and meeting all applicable codes and laws."*
- g. Test Results:** Provide for a report of test results including a citation noting the contract and construction specification requirements, the test or analysis procedures used and the actual test results.
- i. Include a statement that the item tested or analyzed conforms or fails to conform to the contract documents and to the construction specification requirements.
- ii. Each report should be conspicuously stamped on the cover sheet in large letters "CONFORMS" or "NON-CONFORMING".
- iii. All test reports must be signed by a testing laboratory representative authorized to sign certifying test reports, and copies must be submitted to the State with the required weekly or daily report.
- iv. Endeavor to deliver copies of the test reports to the State within one working day of receipt.
- h. Certification of Compliance:** Provide certification by the Quality Management Program Representative for all submittals, drawings, samples, shop drawings, catalog cuts, construction specifications and other documentation developed or prepared by the Design-Builder confirming compliance to the contract documents.
- i. State's Right to Review:** The Quality Management Plan should include a provision that the State has the right and opportunity, but is not obligated,

Section VI Design Guidelines
3. Quality Management

to review any or all work or documentation of the Design-Builder for conformance with the contract documents. Include provisions that:

- i. The Design-Builder must not publish final drawings and specifications, nor issue bid-packs, nor construct an item, unless the State has been given a reasonable opportunity to review and concur with the design, specifications and documentation.
 - Provide the State with the certification from the Quality Management Representative that the design and documents conform to the contract documents.
- ii. The State must be allowed to review and observe any design and/or work under the contract.
- j. **Non-Compliance Notice:** Provide a procedure to resolve cases where a deficiency is discovered by the Design-Builder's Quality Management Representative or the State, either during design or construction. The procedure should include provisions for the following:
 - i. If the work, in the opinion of the Quality Management Representative or the State, is non-complying, the Design-Builder must immediately be advised and presented with the pertinent facts as required.
 - ii. The Quality Management Representative and the State should conduct an investigation and review with the Design-Builder's Management staff. The investigation should be performed at the job site for construction related concerns.
 - iii. If, after such notice or investigation, the Design-Builder fails to correct such non-compliant work, an NCN (Non-Compliance Notice) should be issued.
 - Such notice, when delivered, should be deemed sufficient for the purpose of notification.
 - iv. Upon receipt of the NCN, the Contractor should take immediate action to notify the State of the correction method and timing and proceed to correct the work.
 - v. Provide for review of corrections at progress meetings for non-compliant work.
- k. **Pre-Installation Quality Management:** Provide for pre-installation reviews to ensure that units of work can be installed and function as intended and required in conjunction with other work.
 - i. Reviews should consider work that has preceded or will follow.
 - ii. Conduct reviews well in advance of the installation of every major unit of work which requires coordination with other work.
 - iii. In the event of conflicts, determine corrective actions required, inform the State and proceed with the States concurrence.
 - iv. The Design Quality Management Representative should administer and conduct all pre-installation meetings and reviews of all new major units of work with the appropriate Design-Builder members and should notify the State.

Section VI Design Guidelines
3. Quality Management

- Documentation of pre-installation meetings should be provided to the State.
- l. Installation Quality Management:** Provide procedures for maintaining quality management over suppliers, manufacturers, products, services, site conditions, and workmanship, both on and off-site to produce work of specified quality. Procedures should include:
 - i. Assuring compliance with manufacturers' instructions, including each step in sequence.
 - If manufacturers' instructions conflict with Contract Documents, request clarification from A/E before proceeding.
 - ii. Assuring compliance with specified standards as a minimum quality for the Work.
 - Except: where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
 - iii. Assuring work is performed by persons qualified to produce workmanship of specified quality.
 - iv. Verifying that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
 - v. Assuring that products are secured in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.
 - vi. Assuring Tolerances:
 - Maintain quality management over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of the highest quality.
 - Assure compliance and with manufacturer's tolerances. If manufacturer's tolerances conflict with Contract Documents, request clarification from A/E before proceeding.
 - Assure products are adjusted to appropriate dimensions and position before securing products in place.
- m. References and Standards:** Provide for the following:
 - i. For products and workmanship specified by association, trade, or other consensus standards; assure compliance and the requirements of the standard
 - Except: When more rigid requirements are specified or are required by applicable codes.
 - ii. Assure conformance to reference standard by date of issue of Contract Documents.
 - Except: Where a specific date is established by code.
 - iii. Obtain copies of standards and instructions where required by product specification sections and assure compliance.
 - iv. Assure manufacturer's instructions are adhered to and in accordance with specified warranties.
 - Where applicable, obtain specified warranties and provide to State.

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3. Quality Management

- v. Neither the contractual relationships, duties, nor responsibilities of all parties in the Design-Build Contract, including those of the A/E (design consultants), shall be altered from the Contract Documents by mention or inference in any reference documents.
- n. **Manufacturer's Certificates:** Provide for submission of manufacturers' certificates, in duplicate, where required by individual Specification Sections.
- o. **Mock-Ups:** Provide for the following:
 - i. Assure that mock-up items are assembled and erected with specified attachment and anchorage devices, flashings, seals, and finishes.
 - ii. Assure accepted mock-ups are maintained, protected and reasonably accessible to provide a comparison standard for the remaining Work.
- p. **Manufacturers Field Services:** Provide for the following:
 - i. When specified in respective Specification Sections, require supplier and manufacturer to provide qualified personnel to observe field conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment as applicable, and to make appropriate recommendations.
 - ii. Assure that representatives submit a written report to A/E listing observations and recommendations.
 - iii. Report observations to the State of site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturer's written instructions.
- q. **As-Built:** The Quality Management Representative should monitor and certify monthly that the Design-Builder is maintaining full size marked-up As-built documents:
 - i. As-built documents should include:
 - Drawings.
 - Specifications.
 - Survey notes.
 - Sketches.
 - Nameplate data.
 - Description and serial numbers of all installed equipment.
 - Other information depicting as-built conditions.
 - ii. This information should be updated daily and be maintained in a current condition at all times until completion of work
 - iii. This information should be available for review by State or State's representative at all times.
 - iv. Upon completion of the work, this information should be furnished to the State in a format acceptable to the State.
- r. **Stored Materials Payment:** The Design Builder's Quality Management Representative should provide certification that the stored material requested for payment complies with the RFP & Contract requirements.
- s. **Outside Organizations:** Include and identify, as appropriate, outside organizations such as peer-review architects, engineers, testing laboratories and special inspectors.

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3. Quality Management

- 2) Design-Builder's Quality Management Representative:** Provide a Quality Management Representative who will report directly to an executive officer of the Design-Builder. This Representative must not be the same individual as, nor be subordinate to, the job superintendent or Project Manager, and must have limited job related responsibilities other than quality management.
- a. Authority:** Provide the Quality Management Representative with complete authority to take any action necessary to ensure compliance with the Contract of all design and construction work.
 - b. Additional Quality Management Staff:** The Quality Management Representative may be supplemented as appropriate by additional personnel.
 - c. Resumes:** Prior to award, submit full resumes providing experience and qualifications of all personnel proposed for the Design-Builders Quality Management organization.
 - i. The State reserves the right to reject any person proposed for the Design-Builder's Quality Management organization.
 - d. Office:** The Quality Management Representative should operate within the design team's office during design and be located on the project site at all times during construction.
 - i. Provide the Quality Management Representative with access to pre-fabrication locations.
- 3) State acceptance of plan:** Before start of design or construction, the State must accept the Quality Management Plan.
- i. **Acceptance:** Acceptance will be part of the Pre-Award Phase of the selection process.
- 4) Review of Work and Documents:** The State must be allowed to review all work and documentation of the Design-Builder and its sub-consultants and subcontractors for conformance with the contract documents.
- a. Non-binding Review:** Review by the State is non-binding and cannot be considered an approval of work nor is it an order to proceed with the work.
 - b. State access:** Provide the State with access to observe any portion of the work at the designer's office and the construction jobsite or other place where the Design-Builder is providing any work under this contract.
 - c. Purpose of Review:** The purpose of the State review is to:
 - i. Ascertain the work is proceeding on schedule and in conformance with the contract documents.
 - ii. Analyze the quality management program to verify it is performing its function in accordance with the Quality Management Plan.
- 5) State's Inspectors:** The State may have a representative with the responsibility for observing design and construction quality, progress and contract compliance.
- a. State's Representative:** the State's Representative maybe a Project Manager and/or an on-site Field Observer during the design and construction.

Section VI Design Guidelines
3. Quality Management

- i. These observations and findings may be documented and reported daily or weekly to various State staff members.
- ii. An independent architect or inspection agency may be employed directly by the State for special peer reviews or inspections.

Section VI Design Guidelines
3. Quality Management

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4. Building Commissioning

Commissioning is a quality oriented process for achieving, verifying, and documenting that the performance of facilities, systems, and assemblies meet defined objectives in criteria. This section includes general requirements that apply to the implementation of the commissioning process.

A. Commissioning Specification:

Provide Building Commissioning that complies with Commissioning Requirements of the Draft Specification, Section 01810, of the Building Commissioning Association. (See Attachments, Section VII—3.D).

B. Certified Consultant:

- 1) Design-Builder to Provide Commissioning Consultant:** Provide an independent, certified commissioning consultant qualified to complete the requirements of the Draft Specification, Section 01810 (See VI--4.A above).
 - a. Independent Consultant:** The commissioning consultant must be a completely independent agent and may not be directly associated with the Design-Builder's architect, sub-consultants, contractor, or subcontractors.
 - b. Certification:** The Commissioning Consultant must be a member of the Building Commissioning Association and have Certified Commissioning Professionals assigned to the project.
 - c. State Approval:** The State reserves the right to reject the Design-Builder's choice for commissioning consultant and may require the team to select an alternate consultant.

C. Scope, Schedule and Access:

- 1) Systems:** Provide commissioning for the complete systems, assemblies, equipment, and components for the following:
 - a.** Building assemblies
 - b.** Conveying systems
 - c.** Protective systems
 - d.** Plumbing systems
 - e.** HVAC and refrigeration systems
 - f.** Electrical systems
 - g.** Communications systems
 - h.** Electronic safety and security systems
 - i.** LEED systems
 - j.** Building envelope, including roof, walls, windows, and doors.

Section VI Design Guidelines
4. Building Commissioning

- 2) Schedule:** The Commissioning Consultant should begin participation with the Design-Builder immediately after Contract Award and to be involved with Preliminary Design/Design Development and continue throughout the project until Final Acceptance.
 - a.** Provide at least two weeks notice to the State before commencing any testing associated with commissioning.

- 3) State Access:** All commissioning activities and reports must be easily accessible and available to the State's project team.
 - a.** The State will assign one representative to act as contact for all commissioning activities.
 - b.** The State's Project Team representative must witness all commissioning testing, processes or activities and must sign that he has observed all such activities. If the State's representative does not witness a specific commissioning activity, the activity must be performed again unless waived in writing by the State.

Section VI Design Guidelines

5. Training and Operating Instruction of State Staff

5. Training and Operating Instruction Of State's Staff

- A.** Provide for operating and maintenance instruction of State's staff for items installed under this contract and provide for this instruction at a mutually agreeable time and place.
- 1)** Contractor and major subcontractors must provide qualified personnel for conducting full on-site operation and maintenance training and instruction to State's designated user personnel and maintenance crews in the proper operation, adjustment and maintenance of all operation equipment and systems. Include all general, mechanical and electrical operating systems and equipment. Contractor will schedule this period in advance with the State and appropriate subcontractor or vendor's representative. This will be scheduled two (2) weeks after submittal of the final Operating and Maintenance Manuals so that such information will be available for State staff familiarization prior to the time of this instructional period. Provide minimum of (24) hours of such training and instructions on site, unless otherwise directed, conducted to State's satisfaction.
 - 2)** At each training session, provide a sign-in sheet for signature of all State staff that attend. Identify the sign-in sheet with the training being provided and the date of the training. Submit the sign-in sheets with FINAL ACCEPTANCE procedure.
 - 3)** Except as otherwise specified, arrange for each installer of work requiring continuing maintenance or operation to meet with State's personnel at project site to provide basic instructions needed for proper operation and maintenance of entire work. Include instructions by manufacturer's representatives where installers are not expert in the required procedures.
 - 4)** Use the project Operation and Maintenance Manuals as the basis for instruction. Review contents of manual with personnel in full detail to explain all aspect of operations and maintenance; include as a minimum record documentation, tools, spare parts and materials, lubricants, fuels, identification system, control sequences, hazards, cleaning and renewal of finishes, and similar procedures and facilities.
 - 5)** For operational equipment, demonstrate start-up, shut-down, emergency operations, noise and vibration adjustments, safety, economy/efficiency adjustments, and similar operations. Review maintenance and operations in relation with applicable warranties, agreements to maintain bonds, and similar containing commitments.
 - 6)** All equipment operation and maintenance instructions and training will be video taped in a professional manner, at the expense of the Design-Builder,

Section VI Design Guidelines

5. Training and Operating Instruction of State Staff

and the edited film delivered In addition, provide (4) hours training for the energy management system.

- 7)** Provide a minimum of (4) hours additional follow-up training sessions to be conducted four (4) months following initial training. Systems/equipment to be covered under these training sessions will be as determined by the Owner.
 - 8)** In addition to, or in conjunction with, these training sessions, provide for (4) seasonal adjustment training sessions of the energy management system.
- B.** The Contractor will submit a training synopsis for each system required under the Contract Documents to review operations and maintenance instruction and training. Submit training synopsis with each respective preliminary Operation and Maintenance Manual submittal. Each synopsis will be reviewed by the A/E and approved or returned with comments if necessary. Written approval by the A/E of each synopsis is required prior to beginning such training.

6. Project Closeout Guidelines

A. Cleaning: Provide cleaning throughout construction period and final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations. Leave Project clean and ready for occupancy.

- 1)** Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
- 2)** Remove petrochemical spills, stains, and other foreign deposits.
- 3)** Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
- 4)** Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
- 5)** Sweep concrete floors broom clean in unoccupied spaces.
- 6)** Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo as needed if visible soil or stains remain.
- 7)** Clean transparent materials, including mirrors and glass in doors and windows.
- 8)** Touch up and otherwise repair and restore marred, exposed finishes and surfaces.
- 9)** Wipe surfaces of mechanical and electrical equipment, vertical conveying equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
- 10)** Replace disposable air filters and clean permanent air filters. Clean ducts, blowers, and coils if units were operated without filters during construction.
- 11)** Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out or dim bulbs, and defective or noisy starters in fluorescent fixtures.

B. Substantial Completion and Final Completion Inspections

- 1) Preliminary Procedures for Substantial Completion:**
 - a. Prepare a list of incomplete items (punch list).

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6. Project Closeout

- b. Submit to State specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
- c. Obtain and submit releases permitting State unrestricted use of the Project and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
- d. Prepare and submit Project Record Documents, operation and maintenance manuals, and all final record information.
- e. Deliver tools, spare parts, extra materials, and similar items to location designated by State. Label with manufacturer's name and model number where applicable.
- f. Make final changeover of permanent locks and deliver keys to State. Advise State's personnel of changeover in security provisions.
- g. Complete startup testing of systems, including all security and fire alarm systems.
- h. Submit test/adjust/balance records.
- i. Terminate and remove temporary facilities from Project site.
- j. Advise State of changeover in heat and other utilities.
- k. Submit changeover information related to State's occupancy, use, operation, and maintenance.
- l. Complete final cleaning requirements, including touchup painting. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- m. All restoration work must be performed prior to project closeout.

- 2) Substantial Completion Inspection:** Design-Builder will submit a written request for inspection for Substantial Completion. Upon completion of requirements listed above in Preliminary Procedures, State's Representative will either proceed with inspection or notify Design-Builder unfulfilled requirements.
- a. State's Representative will prepare the Certificate of Substantial Completion after inspection or will notify Design-Builder of noncompliant items which must be completed or corrected before certificate will be issued.
 - b. Re-inspection: Design-Builder will request re-inspection when the incomplete or incorrect Work identified in previous on-site observation is completed or corrected.
 - c. Results of completed inspection will form the basis of requirements for Final Completion.

Section VI Design Guidelines

6. Project Closeout

- 3) Preliminary Procedures for Final Completion:** Before requesting final inspection for determining date of Final Completion, complete the following:
 - a. Submit a final Application for Payment.
 - b. Submit a certified copy of the list of incomplete items (punch list) from Substantial Completion observations.
 - c. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 - d. Submit pest-control final inspection report and warranty.
 - e. Instruct State's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training videotapes.
- 4) Final Inspection:** Design-Builder will submit a written request for final inspection for acceptance.
 - a. Upon completion of all requirements listed above in Preliminary Procedures, State's Representative will proceed with inspection or notify Design/Build Contractor of unfulfilled requirements.
 - b. State's Representative will prepare a final Certificate for Payment after inspection or will notify Design/Build Contractor of non-compliant items.
 - c. Re-inspection: If applicable, Design-Builder will request re-inspection when incomplete or incorrect Work identified in previous report is completed or corrected.

C. Closeout Submittals: Operations and Maintenance (O&M) Manuals

- 1) Operation and Maintenance Manuals:** Assemble a complete, indexed and tabbed set of operation and maintenance (O&M) data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
 - a. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
 - b. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by State's operating personnel. Multiple O&M manuals may be included on one CD disk, but as separate PDF files.
- 2) Submittal:** Design-Builder will submit CD disk(s) in PDF format, plus one paper copy of each operations and/or maintenance manual, at least 15 days before requesting inspection for Substantial Completion. Include a complete operation and maintenance manual directory.

Section VI Design Guidelines

6. Project Closeout

- a. Exception: Submit Mechanical, Electrical, and Special Systems Operation and Maintenance Manuals 30 days prior to Commissioning.
- b. State's Representative will certify in writing whether general scope and content of manuals are acceptable.
- c. Final Submittal: Design-Builder will submit combined CD disk(s), plus five paper copies of each operations and/or maintenance (O&M) manual, in final form at least 14 days before confirmation for final completion.

3) Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals. Include a section in the directory for each of the following:

- a. List of documents.
- b. List of systems.
- c. List of equipment.
- d. Table of contents.
- e. List of Warranties

4) Tables of Contents: Include a table of contents for each Emergency, Operation, and Maintenance manual.

- a. List each product included in manual, identified by product name, indexed to the content of the volume.
- b. List of Warranties: List all warranties within O&M manuals.
- c. If O&M documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.

5) Manual Components: Organize into sets of manageable size. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.

- a. Binders: Provide heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper.
- b. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components.
- c. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.
- d. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind

Section VI Design Guidelines

6. Project Closeout

envelopes in rear of manual; then at appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

- 6) Content:** For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.
- a. Source Information: List each system, subsystem, and piece of equipment included in manual; identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent.
 - b. Product Information:
 - i. Product name and model number. Include equipment tag or other identification of the equipment.
 - ii. Manufacturer's name
 - iii. Material and chemical composition
 - iv. Color, pattern, texture
 - v. Reordering information, and special instructions
 - c. Manufacturers' Maintenance Documentation and Procedures: Include manufacturers' maintenance documentation including the following information for each component part or piece of equipment:
 - i. Standard printed maintenance instructions and bulletins.
 - ii. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
 - iii. Identification and nomenclature of parts and components.
 - iv. List of items recommended to be stocked as spare parts.
 - d. Maintenance Procedures: Include the following information for essential maintenance procedures:
 - i. Test and inspection instructions.
 - ii. Troubleshooting guide.
 - iii. Precautions against improper maintenance.
 - iv. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - v. Aligning, adjusting, and checking instructions.
 - vi. Demonstration and training videotape, if available.
 - e. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.

Section VI Design Guidelines

6. Project Closeout

- i. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
 - ii. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.
- f. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- g. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.
- h. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
- i. Include procedures to follow and required notifications for warranty claims.
- i. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed.
- i. Mark each sheet to identify each product or component incorporated into the Work.
 - ii. If data include more than one item in a tabular format, identify each item using appropriate references from the Design-Build Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
 - iii. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
- j. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams.
- i. Coordinate these drawings with information contained in Record Drawings to ensure correct illustration of completed installation.
 - ii. Comply with requirements of Record Drawings below.

D. Closeout Submittals: Project Record Documents

- 1) **Record Drawings:** Submit to State's Representative copies of Record Drawings as follows:
- a. **Record Prints:** Maintain one set of blue-line or black-line white prints of the Contract Drawings and Shop Drawings.

Section VI Design Guidelines

6. Project Closeout

- i. For final submission, in addition to the set of blue or black line prints required above, provide electronically scanned color PDF files for each marked up Record Print. Submit on CD disk(s) in PDF format.
- ii. Mark Record Prints to show the actual installation where installation varies from that shown originally.
 - Require individual or entity who obtained record data, whether individual or entity is Installer, Subcontractor, or similar entity, to prepare the marked-up Record Prints.
 - Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - Accurately record information in an understandable drawing technique.
 - Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
 - State's Representative may check for completeness of record documents at any time.
- iii. Record Print Content: Types of items requiring marking include, but are not limited to, the following:
 - Dimensional changes to Drawings.
 - Revisions to details shown on Drawings.
 - Depths of foundations below first floor.
 - Locations and depths of underground utilities.
 - Revisions to routing of piping and conduits.
 - Revisions to electrical circuitry.
 - Actual equipment locations.
 - Duct size and routing.
 - Locations of concealed internal utilities.
 - Any modifications to the Design/Build Contract Documents.
 - Field records for variable and concealed conditions.
 - Record information on the Work that is shown only schematically.
 - Important additional information that was either shown schematically or omitted from original Drawings.
- iv. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
- v. Note Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- vi. Newly Prepared Record Drawings: Where State's Representative determines that neither the original Contract Drawings nor Shop Drawings are suitable to show actual installation, Design-Builder will prepare additional drawings.
 - New Drawings may be required when a Change Order is issued as a result of accepting an alternate, substitution, or other modification.

Section VI Design Guidelines

6. Project Closeout

- vii. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
 - viii. Organize Record Prints and newly prepared Record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
- b. CAD Drawings:** Submit Record CAD Drawing files, annotated with all contract modifications.
 - i. Immediately before inspection for Substantial Completion, prepare a full set of corrected CAD Drawings of the Contract Drawings, incorporating changes and additional information previously marked on Record Prints.
 - ii. Submit on CD disk using AutoCAD version 2000i or later file format.
 - Organize CAD information into separate electronic files that correspond to each sheet of the Contract Drawings.
 - Name each file with the sheet identification. In each file include Project name, Date, State's contract number, designation "PROJECT RECORD DRAWINGS," name of Architect and Engineers of Record, and name of Design-Builder.
- c. Record Design/Build Specifications:** Markup and submit Design/Build Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
 - i. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - ii. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 - iii. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
 - iv. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
 - v. Note related Change Orders and Record Drawings where applicable.
 - vi. Submit one copy of the paper documents, plus an electronically scanned file on CD disk(s) in PDF format.
- d. Warranties:** Submit properly executed warranties to State before Final Completion.
 - i. Organize warranty documents into an orderly sequence based on the table of contents of the Operations and Maintenance Manuals and submit to State in 3-ring binders.

Section VI Design Guidelines

6. Project Closeout

- ii. Provide a table of contents identifying the products or installations. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
- iii. Identify each warrantee binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Design-Builder.

Section VI Design Guidelines
6. Project Closeout

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Section VII

Attachments

Section VII Attachments

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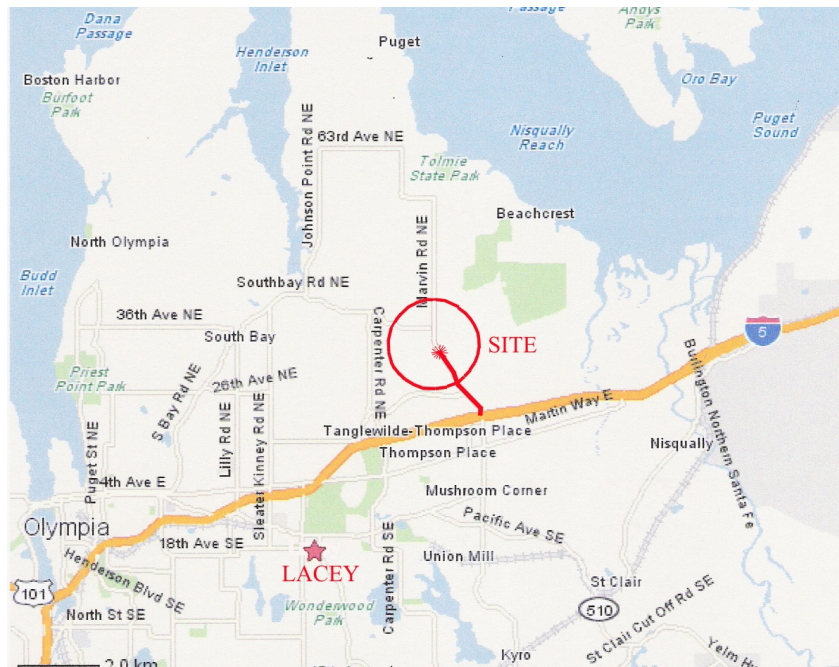
Section VII Attachments
1. Site Information
A. Location Map

1. Site Information

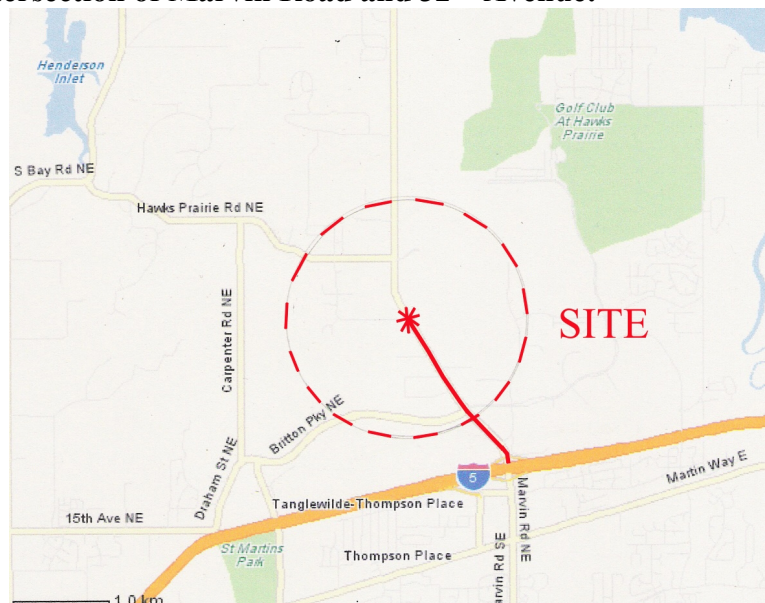
A. Site Location Map

The 38 acre Project Site is located on the west side of Marvin Road at the intersection of 32nd Avenue, north of Hawks Prairie in Thurston County. The site is undeveloped and shows no previous signs of development.

1) **Site Location Maps:** (see below)

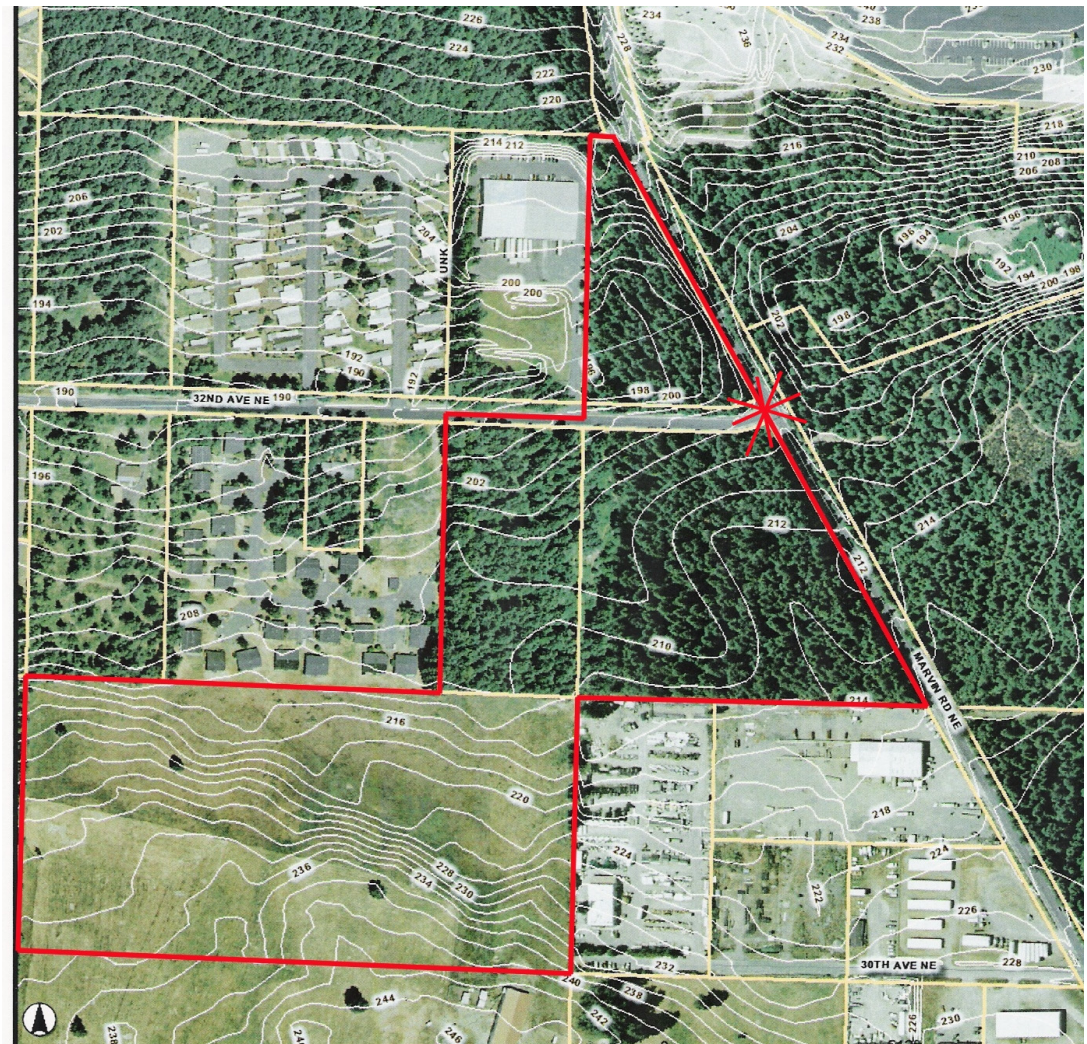


Intersection of Marvin Road and 32nd Avenue:



Section VII Attachments
1. Site Information
A. Location Map

- 2) Site Photo:** The photo below shows the outline of the Project site including existing vegetation with a topographic overlay showing 2 foot contours. Note: This information has been taken from the Thurston County website; as such, these contours have NOT been surveyed and are only approximations.
- a. The Site consists of three distinct, contiguous sections:**
- Northern section: The 3 acre northern section of the site has frontage on both Marvin Road to the east and 32nd Avenue to the south. The site is triangular and is currently covered with second growth coniferous trees.
 - Central Section: The 15 acre central section of the site has frontage on both Marvin Road to the east and 32nd Avenue to the north. The site is currently covered with second growth coniferous trees.
 - Southern Section: The 20 acre southern section of the site is rectangular and has no frontage. The site is currently pastureland.



Section VII Attachments

1. Site Information

B. Site Survey

B. Site Survey

1) Boundary Survey: A site boundary survey was completed in the Fall of 2005 by Skillings/Connolly Inc.

a. Click on these links to open the survey attachments:

- i. [ALTA Survey Sheet 1](#)
- ii. [ALTA Survey Sheet 2](#)
- iii. [Record of Survey Sheet 1](#)
- iv. [Record of Survey Sheet 2](#)
- v. [Record of Survey Sheet 3](#)

2) AutoCAD Drawing: To facilitate site development studies, an AutoCAD drawing file was created from the above Boundary Survey. In addition, the drawing includes an approximate overlay of the site contours taken from the Thurston County web site. ***This AutoCAD drawing is NOT for detailed design...it is only an approximation provided to assist with conceptual layouts: THE PROPOSER CANNOT RELY UPON THE ACCURACY OF THIS DRAWING.***

a. [Click on this link to open the AutoCAD drawing attachment:](#)

Note: This drawing attachment is NOT considered as part of the Design-Build Contract Documents.

Section VII Attachments
1. Site Information
B. Site Survey

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Section VII Attachments

1. Site Information

C. Geotechnical Report

C. Geotechnical Report

In the Fall of 2005, a geotechnical survey and report was completed on the Site. Soils boring locations, data and logs are included in the report.

- 1) Link to Report:** [Click on this link to view the Geotechnical Report:](#)
- 2) Interpretation of Report:** It is the Design-Builder's responsibility to analyze and interpret the data in the report.
- 3) Additional Information:** Any additional information required by the Proposer in preparation of their design solution and submittal is the responsibility of the Proposer.
 - a.** Appropriate access to the Site for additional testing may be granted contingent upon written request to the State.

Section VII Attachments
1. Site Information
C. Geotechnical Report

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Section VII Attachments

1. Site Information

D. Due-Diligence Report

D. Due-Diligence Report

- 1) In the Fall of 2003, a due-diligence report was completed WSDOT Civil Engineer, Anna Crickmer, PE. The information included information about:
 - a. Existing site vegetation
 - b. Soils and construction implications
 - c. County roads and right-of-way improvement requirements
 - d. Public utility availability and development requirements
 - e. Stormwater management requirements
- 2) **Link to Report:** [Click on this link to view the Due-Diligence Report:](#)
- 3) **Interpretation of Report:** It is the Design-Builder's responsibility to analyze and interpret the data in the report.
- 4) **Note:** This attachment is NOT considered as part of the Design-Build Contract Documents.

Section VII Attachments
1. Site Information
D. Due-Diligence Report

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Section VII Attachments

1. Site Information

E. Site Photos

E. Site Photos

The attached site photo pans, taken March 3, 2006, include selected views of the Project site. [Click this link to view the photos.](#)

Section VII Attachments
1. Site Information
E. Site Photos

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Section VII Attachments
2. Program Information

2. Program Information

A. Administrative Office Building Program (MSGs)

In Fall of 2005, MSGS Architects updated the Program for the Administrative Office Building.

- 1) Link to Report:** [Click on this link to view the Administrative Office Building Program:](#)
- 2) Link to Methodology:** [Click on this link to view the process used to develop the Administrative Office Program.](#)

Section VII Attachments
2. Program Information

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Section VII Attachments
2. Program Information

B. Maintenance Shops Facilities Program

In the Fall of 2005, Maintenance Design Group completed a Program for the Maintenance Shops Facilities.

Note: This report is too large to include in the printed version of this RFP. For a paper copy of this report, request in writing or fax from the Project Contact Person (Section I—1.E)

- 1) Link to Report:** [Click on this link to view the Maintenance Shops Program:](#)

Section VII Attachments
2. Program Information

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Section VII Attachments

3. Specifications and Standards

3. Specifications and Standards

A. [WSDOT Telecommunication Infrastructure Cable Standards](#)

Section VII Attachments
3. Specifications and Standards

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Section VII Attachments
3. Specifications and Standards

B. Radio Tower Specifications

- 1) [Tower Specifications](#)
- 2) [Radio Support Building Specifications](#)
- 3) [Site Map Location of Radio Tower](#)

Section VII Attachments
3. Specifications and Standards

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Section VII Attachments
3. Specifications and Standards

C. Fuel Island Specifications

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3. Specifications and Standards

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Section VII Attachments
3. Specifications and Standards

D. BCA Commissioning Specifications

Section VII Attachments
3. Specifications and Standards

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Section VII Attachments
4. Proposal Exhibits

4. Proposal Exhibits

A. Phase I Submittal

- 1) [Phase I RFQ Checklist](#)
- 2) [Phase I RFQ Design-Build Proposal Form](#)
- 3) [Past Performance/Experience](#)
- 4) [Risk Assessment](#)

Section VII Attachments
4. Proposal Exhibits

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Section VII Attachments
4. Proposal Exhibits

B. Phase II Submittal

- 1) [Phase II RFP Checklist](#)
- 2) [Phase II RFP Design-Build Proposal Form](#)
- 3) [Security \(Bid Bond\) Form](#)
- 4) [Risk Assessment](#)
- 5) [Deviations from Space Needs Program and Design Guidelines](#)
- 6) [Alternatives and Value-Added Design Elements](#)
- 7) [Detailed Cost Proposal](#)
- 8) [Form of Guaranty for Limited Liability Companies](#)

Section VII Attachments
4. Proposal Exhibits

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Section VII Attachments
4. Proposal Exhibits

5. Prevailing Wages

Prevailing Wage requirements for State Public Works apply to this project. [Click here to view the Prevailing Wages](#) that will apply throughout the entire project duration.

Section VII Attachments
4. Proposal Exhibits

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